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THE ARCHITECTURAL RECORD

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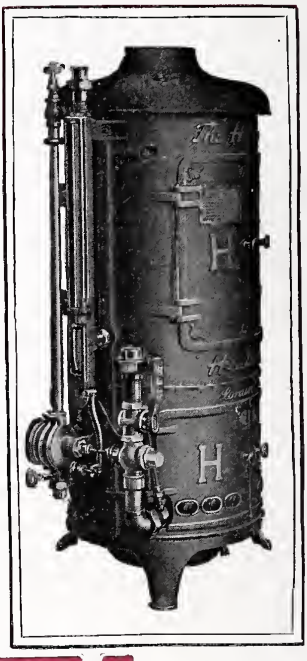


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FIG. 1. CANTERBURY CATHEDRAL, CHOIR; TRINITY CHAPEL BEYOND.

THE ARCHITECTVRAL RECORD

VOLVME XLI



NVMBER I

January, 1917

Gothic Architecture and Its Critics

Part 4 - The English Gothic Style

By
H. D. F. Hamlin

IN the development of that medieval architecture which, by reason of certain underlying unities and resemblances, has been for some centuries collectively called Gothic, each country impressed upon it a form and direction which differed from those it received in other countries. We speak of the French Gothic, the English Gothic, the Spanish Gothic, in recognition both of the diversities and of the unities of that marvelous architectural movement which covered Western Europe with churches and cathedrals between the middle of the twelfth century and the end of the fifteenth. These unities were not merely on the one hand that of the ritual and discipline of the uniform church which they served, nor on the other that of mere form and detail. It is no mere superficial resemblance of pointed arches and pinnacles and tracery that warrants our applying the common name "Gothic" to all the varied phases of the medieval ecclesiastical and even domestic architecture of Western Europe. Doubtless these superficial resemblances and that ecclesiastical unity are what appear most obvious in this architecture; and it is perfectly true that the term "Gothic" was wholly unscientific in its origin, as used to designate all medieval work because of its non-conformity to the "correct" or classic manner of antiquity and of the Renaissance. But it is also true that the later narrowing of its popular application, to designate the pointed architecture of the Middle Ages, was justified by those underlying unities which are traceable in all the Gothic styles, though so often obscured by their differences. The fundamental structural problem which dominates all these styles is the ribbed intersecting vault and the means for supporting and abutting it; and the features which I enumerated in a former paper* as characteristic of these styles were chiefly derived from or consequent upon the development of the various solutions of this structural problem. Through all these solutions runs a more or less systematic division of the loads from the thrusts, with separate provision

*In the Architectural Record for May, 1916.

for each, and a shaping of members with reference to the structural function of each. These fundamental principles are recognizable in all the styles, though it is only in the Ile-de-France Gothic that they are expressed with complete and thoroughgoing consistency.

Professor Moore declares, however, with great positiveness, in his article in the September RECORD, that "there never was any general movement covering all Western Europe governed by a common structural principle"; and that, therefore, as I had accepted the principle that structural systems furnish the true basis for architectural discriminations, I am inconsistent in my definition of Gothic architecture given in the May RECORD. He implies that my definition ignores construction or "structural" principle. On rereading it I can find no warrant for the charge. If the "problem of the construction and adornment of the cruciform church with aisles, wholly vaulted with stone," which is there specified as the criterion of the Gothic styles, does not involve a structural principle as well as structural methods, I do not know what the word "structural" means.

In his assertion that there was "no general movement covering Western Europe governed by a common structural principle," therefore, Professor Moore begs the very question at issue; or, rather, simply reasserts the very proposition which I was protesting against—the implied assumption that the only structural principle to be recognized as a criterion of Gothic architecture is the stone skeleton of the Ile-de-France churches with practically no walls except of tracery and glass. This contention ignores, without controverting, the broader view accepted by nearly all the writers of recent times, that the European Gothic styles are all fundamentally based on the effort to solve the problems (a) of the construction of ribbed vaulting over the high central aisles as well as over the side aisles of the churches, and (b) of the support and abutment of these vaults. Sir Thomas Jackson, the latest and most scholarly of all the English writers on the subject, makes a dignified protest against the restriction of the term Gothic to the Ile-de-France style in his *Gothic Architecture* (ii, 254-258); a passage to which I must refer my readers, as it is too long to quote entire and too fine to mutilate by quoting mere fragments. May I be permitted further to observe that nowhere in the article which Professor Moore criticizes have I asserted that structural principles are the *sole* criterion of an architectural style; it is he, not I, who so considers it. In that same article I enumerate all three basic elements of architectural design—plan, construction and decoration; not structural principle alone. Inasmuch as Professor Moore later on in his article admits that "a style must be defined by its features, for it is only by its features that it can be known," and furthermore admits that he cares little about the term Gothic, the inconsistency would appear to be on his side, in restricting the term to the Ile-de-France structural system, as he practically does by calling all other styles by other names.* He disclaims wishing to impose his views on others. I must, therefore, have been mistaken in supposing that it was for that purpose that he wrote and published the books to which I have referred.

I regret that my space limits prevent my taking up in detail his other criticisms of my article, as they supply material for a very interesting discussion.

This fundamental structural problem of the ribbed groined vault and its support and abutment, common to all the Gothic styles, was differently handled in different countries. Differences of climate, environment, materials, racial predilection and tradition, the varying relations of the Benedictine orders with each other and with the bishops, the varying attitudes of the civil and religious powers and of the people to both, all produced wide local variations of the general style. The differences between the various phases of the Gothic architecture are so great oftentimes as to obscure the underlying unities to which I have referred. Of all these various styles that which was developed by the English is

*I make my apologies for having charged him with calling them "false" and "bastard." These adjectives do not occur in his writings, which are uniformly courteous and restrained in expression.

the most consistent and at the same time the most strongly national. It would appear that the English Gothic system was derived primarily from the French, and did not develop spontaneously and independently from the English Norman which preceded it. But the ideas and features of French origin were blended by the English with ideas and methods characteristic of the Anglo-Norman, and out of this blend they developed a national style of remarkable beauty.

In discussing the relations of the English and French styles the critics are divided into three schools: the ultra-English, who deny or minimize the French influence; the ultra-French, who magnify the French at the expense of the English share in the development of the style; and a third group who recognize certain French origins and influences, but give full credit to the English for what they developed out of these foreign elements. To the first class belong J. H. Parker (*Introduction to Gothic Architecture*) and E. S. Prior, author of an excellent account of *Gothic Architecture in England.* To the second class belong Professor Moore and the Frenchman Corroyer. To the third we must assign Viollet-le-Duc, the Frenchman; Sir J. Fergusson, Professor Simpson and Sir T. G. Jackson among English writers, and Mr. R. Sturgis and Professor Frothingham, the Americans. These lists are, of course, not exhaustive; they are intended merely to give an idea of the attitude of a few of the more prominent writers on the subject.

Thus Mr. Prior asserts in his Preface that "his survey of the cathedrals and most of the monastic remains and larger parish churches of England has given him opinions which * * * are at variance with the assertion of the great French architecture being the mother of all Gothics" (*sic*). Further, as in the first chapter, he declares that "our English art has lately particularly suffered from this misapprehension. The idea is now continually advanced that our English styles were at their starting always mere borrowings, and that constant reinforcements from France were added to enable us to produce Gothic at all. Canterbury and Westminster have been considered as conclusive for this view even by some English writers, whose acquaintance with our English art might have been supposed to have given them a wider outlook."

All the earlier English writers were wont to insist, often with little critical discrimination, on the purely English origin as well as the purely English development of the English Gothic style.

As an example of the claims of the second group, represented with great erudition of scholarship and in a literary style which makes his *Development of Gothic Architecture* a masterpiece, one should read Professor Moore's Chapter VI in that work and the whole of his *Mediæval Church Architecture in England.* A brief quotation must suffice to outline his general position. In the first named work he says (p. 196, ed. of 1899): "But the choir of Canterbury was the real beginning of what Gothic there is in the pointed architecture of England. From it, as the main source, is derived, in so far as structural elements are concerned, what is known as the Early English style." In the last chapter of that work, after reviewing his contention that the Early English style is not Gothic, but Pointed Anglo-Norman, he says: "This architecture cannot, therefore, be properly called English in the sense of being a purely native product; it is Anglo-Norman. And this is, of course, largely French, since the dominant artistic influence under which both Normans and English worked at this time was that of France" (*op. cit.,* p. 426).

Professor Frothingham, in his admirable continuation of Sturgis' *History of Architecture,* has clearly and concisely presented the view of the third group. He says in the fourth volume of that work (p. 3): "An exceptional position is taken by England. She is a splendid second to France in the race for honor, leaving other countries hopelessly distanced. More than this, while what is considered the orthodox system of Gothic construction and decoration was born in France, England may claim that she experimented independently in its basis,



FIG. 2. LINCOLN CATHEDRAL, PRESBYTERY, EAST WINDOW; CLUSTERED MARBLE SHAFTS; TIERCERON VAULT; CORBELED VAULTING SHAFTS; MULTIPLIED LINES AND RICH DECORATIVE EFFECTS.

the ribbed cross-vault, about as early as this was done in France. England also from the beginning made an independent application of Gothic principles and developed its artistic forms under different names. She soon contributed original elements to the common stock, in ground plans, systems of subsidiary vault ribs and forms of tracery. * * * No European country showed such a dominance of national traits."

II.

When the same facts give rise to diametrically opposite conclusions in different minds, what is the perplexed reader to conclude? Plainly this, at least: that in the study of a complex subject the opponents have emphasized different facts, or different aspects of the same facts. He is, therefore, pretty safe in assuming that the truth lies somewhere between the opposite extremes of opinion, unless, indeed, the arguments are overwhelmingly on one side. In the present instance a fair balancing of the arguments on both sides seems to me to warrant a conclusion somewhat as follows: Though there were sporadic instances of the pointed arch and ribbed groined vault before 1175, these nowhere showed a clear apprehension of the principles and methods followed at that time in France. The first building erected in a post-Romanesque style, with ribbed vaulting and an approach to the Gothic as it then existed in France, was the choir of Canterbury, by William of Sens, and his successor, William the Englishman (1175-1184). How far Trinity Chapel and Becket's Crown built by the English William are an "English" or "French" work is much discussed, but it shows no notable departure from the style of the choir, except in details which must be considered as English. Lincoln Cathedral, begun in 1192, is a purely English Gothic church, in plan, construction and detail. It was undoubtedly influenced by the new choir and East end of Canterbury, but hardly enough to merit the adverb "profoundly" used by Moore. The contemporary nave of Wells shows much less of the Gothic spirit and method. But from Lincoln on the English style was developed independently, on lines which diverged widely from the French, from which it received no accession of influence except in the single case of Westminster Abbey, in which the plan of the choir and sanctuary is French, and so is the loftiness of the church compared with the width of its central aisle. But this is an isolated example; the French influence stopped there; nowhere did there appear another design perceptibly influenced by Westminster. The English Gothic continued to develop through the Decorated into the Perpendicular style, with no slightest touch of French influence, except at first in its Geometric tracery. This influence is returned later in its Curvilinear tracery, which apparently gave the first start to the French Flamboyant tracery; and in the vaulting of a few late French churches in Normandy with multiple ribs somewhat after the English manner.

But in all this discussion of what is French and what is English, one is apt to forget that in the twelfth and thirteenth centuries national lines were not drawn as they are now. The kingdom of France was the Ile-de-France, a small territory. Burgundy and Brittany were practically independent dukedoms. Throughout the second half of the twelfth century and the early years of the thirteenth, Normandy, Brittany, Anjou and Aquitania—practically the western half of France—were under the English Plantagenet kings. French was the official language of the English court, and not till well on in the fourteenth century was it finally banished from the English schools. The Norman element was strong in the upper ranks of the English people. All this Mr. Prior has set forth very clearly in his *Gothic Architecture in England*. The Cistercian order, whose influence in the plan and construction of English churches was undoubtedly important, originated in what we now call France, as a protest against the luxury and splendor of the Clunisian Benedictines, but it can hardly be called French, except in that sense. Its members were of all races and countries, and the constant interchange of members between the different chapters tended to obliterate na-

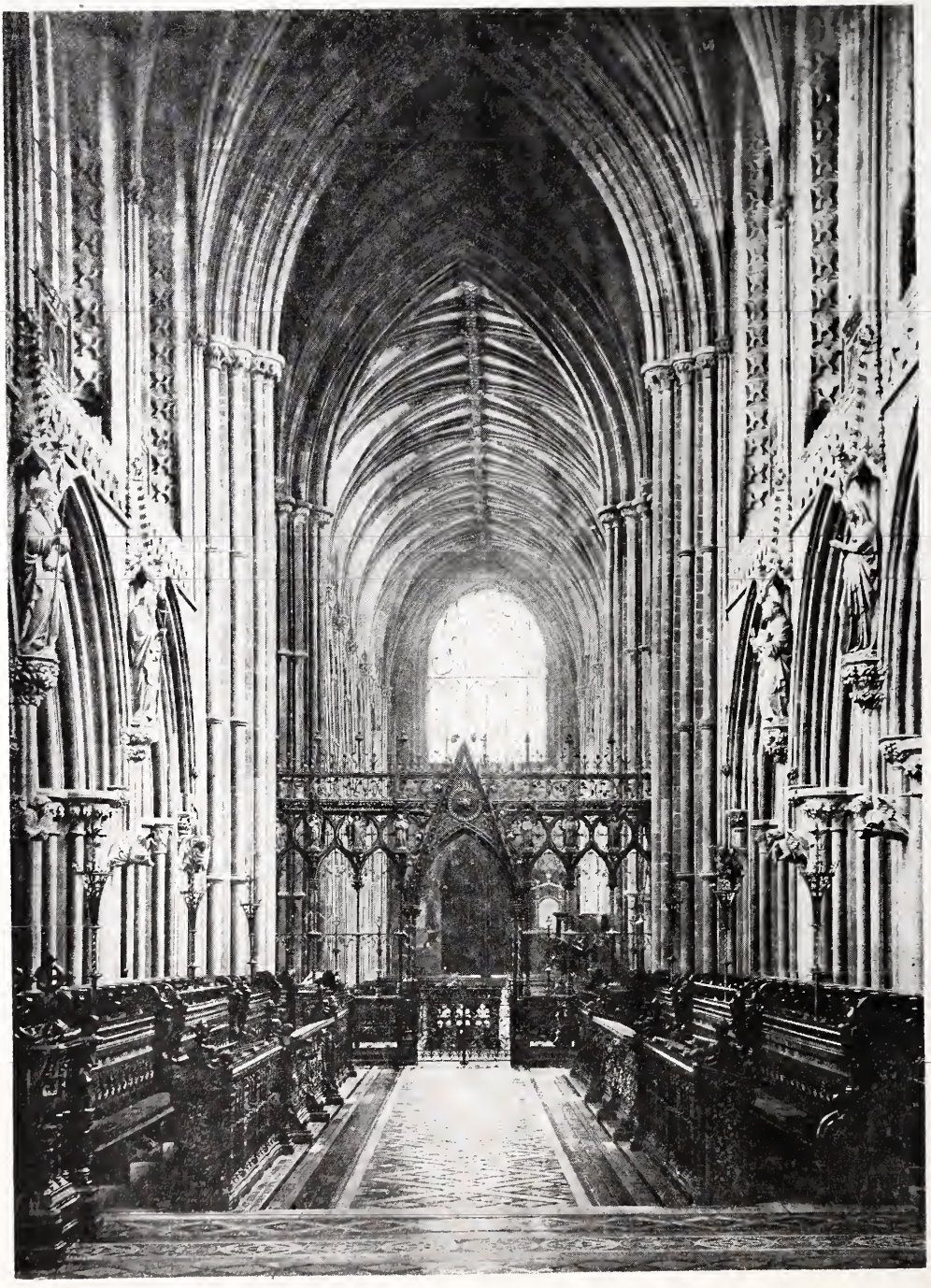


FIG. 3. LICHFIELD CATHEDRAL, CHOIR; TIERCERON VAULT, STRONG RIDGE RIB, RICH INTERIOR DECORATIVE MEMBERING.

tional lines and purely national influences. Among all the peoples of Europe the English were the nearest to the modern conception of a nation—a people under one government, with common tastes, ideas and aspirations.

English Gothic architecture reflects this fact: it is more nearly alike in character in the different parts of the kingdom than is the French or German or Italian. It cannot be sharply divided into provincial schools like the French schools of Normandy, Burgundy, Anjou and the Ile-de-France. The variations in its products are many and wide, but they are individual or local, not provincial.

III.

In my paper on the *Logic of Gothic Architecture** I referred briefly to the English treatment of vaults, buttresses and vaulting shafts. They deserve a somewhat fuller notice in considering the English "logic" and lack of logic. Professor Moore, as has been observed before in these papers, dwells frequently on the failure of the English to design logically, not only in their disregard of the Ile-de-France conception of the skeleton frame of stone, but also in their treatment of details, particularly in the design of their piers and vaulting shafts. Most of his conclusions flow logically from his implied major premise that the only true Gothic architecture is that of the Ile-de-France of the thirteenth century. This major premise, as I have shown, is not conceded by the majority of modern writers. But apart from the acceptance or rejection of that assumption it is fair to ask whether there is not in English Gothic architecture evidence of a logic proceeding on other lines than those followed by the Ile-de-France builders, as rational from its own point of view as the French from its own.

The Anglo-Norman had been developed into a splendid phase of ecclesiastical architecture which, in spite of its French origins, was unmistakably and completely English. The great abbey churches of Durham, Norwich, Canterbury, Ely and Peterboro were certainly not surpassed in dignity and architectural splendor, if they were equalled by contemporary churches, in France or the Rhine Valley. These great churches were, however, vaulted only over the side aisles; the lofty central aisle was roofed invariably with wood. England was abundantly supplied with timber, especially with oak, and the English preferred using this abundant material to constructing huge vaults over the nave and choir. Yet all these churches were built with an almost Egyptian massiveness, abundantly strong to carry the high vaults; and in many cases the piers are membered with vaulting shafts as if vaults were contemplated from the first. This I believe to have been the intention in each case; and I attribute the abandonment of this intention partly to timidity due to inexperience in large vaults, partly—perhaps mostly—to fear of inadequate foundations. Sir T. G. Jackson has called attention to the inferior and often careless work in the foundations. Undoubtedly the massive masonry settled during construction, without serious cracks and fissures, perhaps, but sufficiently to deter the monks from adding the heavy load of a high vault. Vaults were added later, it is true, to Durham,* Gloucester, Tewkesbury, and Norwich, and usually with little regard to the membering of the substructure. It is a notorious fact that the medieval builders in altering existing buildings were generally quite indifferent to the demands of unity of treatment and more or less contemptuous of the original designers. The spire of Salisbury is a conspicuous exception.

When, after sporadic experiments with pointed arches and ribbed vaults (at Malmesbury, Fountains, Bristol chapter house, etc.), the splendid choir and Trinity Chapel rose from their foundations at Canterbury, the English became acquainted for the first time with the new conceptions of architecture that were then (1174-84) maturing in France. Certain features of this new architecture made a great impression on the English

*In the Architectural Record for August, 1916.

*There is much controversy as to the date of the Durham vault. I incline personally to the view that it was added some time after the original construction, to replace a temporary wooden roof not contemplated in the original design.

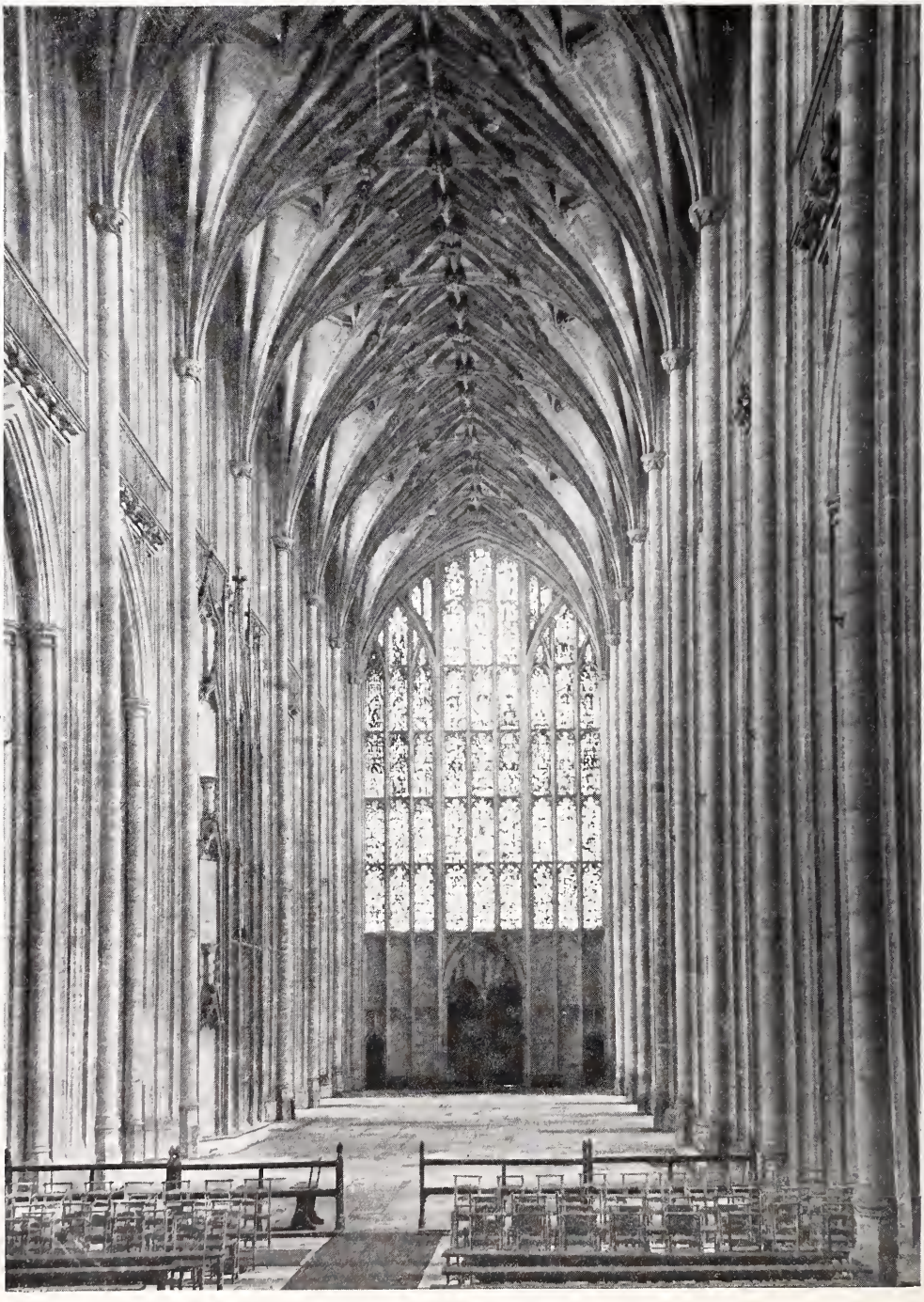


FIG. 4. WINCHESTER CATHEDRAL, NAVE; LIERNE VAULTING, PERPENDICULAR WEST WINDOW; SINGLE CONTINUOUS VAULTING SHAFT.

monastic builders, particularly the clustered pier with attached or detached shafts of hard stone or marble, and the six-part vault which appears soon after in the transepts of Lincoln and two or three other instances. The English builders, however, while they used ribbed vaulting and the pointed arch and clustered shaft, long refused to abandon wholly the conception of the massive continuous wall in favor of the organized skeleton of stone after the French fashion. As has always been the English custom, they effected a compromise. As Prior says, the Englishman's "genius was for compromise. The articulated and balanced construction which took the Frenchman's fancy and became to him a domineering mistress was still to the English artist only a helpmate." He reduced very greatly the massiveness of his Norman construction, but preferred to retain something of its expression of stability by the use of a superstructure much heavier than the French. He declined —very likely he feared—to depend upon external abutments and flying arches alone for the stability of his vaults.* With heavy clearstory walls he could afford to lower his flying arches and protect them under his side-aisle roofs. He distrusted the permanence of exterior props, exposed to the peculiarly trying extremes of the English climate. It is plain that he disliked the appearance of the huge array of doubled flying arches and the forest of pinnacles which he saw in the churches of Normandy and the Ile-de-France. Moreover he preferred the effect of long and relatively low vistas to the effects of airy loftiness which the French builders were producing. We may not agree with his tastes and preferences, but they were perfectly legitimate, and his whole system was logically consistent and harmonious within itself. He developed it into a wholly new architecture, as widely different from the precedent Anglo-Norman as from the Ile-de-France Gothic. It was still a monastic architecture chiefly, and retained certain characteristics of the Anglo-Norman buildings—their length and a small share of their massive wall masonry; but it seems to me very misleading to call it "Pointed Norman." For it was a vaulted style, which the Anglo-Norman was not, and it differs from the Anglo-Norman fundamentally in structural conception and in architectural membering. The Norman apsidal termination was universally given up in favor of the Cistercian square east end, while the reduction in the area of supports was revolutionary, notwithstanding the massiveness of the piers of Exeter and one or two other churches. Lincoln cathedral, for example, is said by the late C. F. Penrose, an extremely careful writer, to have the smallest proportion of solid to void in its supports of any large vaulted building in Europe.

Professor Moore points out the general lack of exact correspondence between the English vaulting shafts and the vault ribs they carry. The fact is undeniable; the question arises how far such exact correspondence is really necessary from the point of view of design. Bearing in mind the fact that the vaulting shaft performs no real structural function, but serves the purely esthetic purpose of providing an apparent support for the vaulting and of visibly dividing the bays by a vertical line, the deficiency of logic in this lack of correspondence becomes more apparent than real. Whether the single vigorous shaft of Winchester nave, for example, is or is not more satisfactory than the group of five shafts of Rouen (shown in my Figure 3 in the August RECORD), given the whole style and proportions of each edifice, is really a question of taste. Nevertheless, the general proposition is quite justified that the English cared far less than the French for that rigid structural logic which was the glory of the Ile-de-France. This is admitted by many of the writers of the third group, both English and American, like Sir T. G. Jackson, Mr. Prior, Mr. Cram and Professor Frothingham. Several of these decry the extremes to which the French carried their logic of the stone frame, noting the constant repairs which these extremes have made necessary; all of them assert

*See Mr. Francis Bond's excellent discussion of the English systems of vaulting and abutment in his Introduction to English Church Architecture, Vol. I.

the countervailing decorative beauty of the English structures.

With the rejection of the skeleton system of supports goes the whole group of its logical accompaniments. With relatively low vaults and massive clearstories, flying arches above the aisle roofs became unnecessary or were added *pour surcroît de sureté*. When employed they were generally kept low and given a steep slope. I believe a graphical analysis of the strains will prove that in this the English were better and more logical engineers than the French, who used two arches, one much too high and the other perhaps too low, to do what should logically be done by one arch.* The omission of the wall buttress against the clearstory was an obvious corollary of the English system. More logical also than the French, as I have shown in my last previous article, was the English builder in springing his vaults, as he often did, from vaulting shafts carried on corbels and not starting from the ground. I am glad to find my contention on this point supported by so high an authority as Sir Thomas Jackson's, whose acquaintance with problems of vault-abutment is practical as well as theoretical.

Coming to the subject of the vaulting itself, it is interesting to note how the practical Englishman, although he rejected the system of the stone skeleton for his supporting masses, where it did not seem to him to be necessary, adopted it for his vaulting, where he felt its aid to be imperative; not only adopted it, but carried it out in a far more thoroughgoing manner than the Frenchman, and pushed it to its utmost limits of structural and then of decorative application until he had exhausted its possibilities. The introduction of tiercerons or intermediate ribs, to reduce the width of the fillings and get rid of the twisted surfaces of the French vaults which he disliked, brought with it the necessity of ridge-ribs to abut the opposed tiercerons which are, of course, not in the same plane. I am unable to conceive why this ingenious and admirable extension of the principle of the vault carried on a frame of six ribs to a vault on a frame of eight, ten or twelve ribs, should be considered a "violation of the principles of Gothic art, in which no superfluous features occur." The tiercerons and ridge-ribs are anything but superfluous; and while opinions may differ as to the relative beauty of the French and English vaults, one must, I think, admit that the latter represent an admirable and logical structural device. Its decorative richness was in harmony with the whole English system of interior design, which, lacking the element of great loftiness, gave added effect of scale to its long vistas by multiplying all the architectural lines—shafts, arch moldings and vault ribs. After speaking of the English molded caps, Frothingham observes (Vol. IV, page 6): "She" [England] "also used her uniquely heavy walling to create effective, strongly undercut and massive groups of moldings. In both these fields she had no rivals."

Professor Moore regards it as a great defect of the English vaults that the wall arches are not stilted, so that the severy widens against the clearstory wall all the way from spring to crown. The pressure of the vault is thus not concentrated effectively against the vertical strip of the clearstory wall which is abutted by the wall buttress. But with the massive clearstory wall of the English system such concentration was not at all necessary, while the English avoidance of the stilted wall-arch carried with it the avoidance of the French plowshare twist of the transverse vault-panel.

Moreover, I am sure Professor Moore greatly exaggerates the importance of the concentration to which he refers. The cross-vaults themselves exert, of course, no thrust except in the direction of the length of the church. Their only service of "concentration" therefore is to transmit the thrust of the diagonal ribs (in a French vault) to the clearstory. If this thrust were considerable, it might be structurally important to warp the transverse fillings by stilting the wall arch as the French did, thus transmitting the thrust of the groin rib to the wall directly behind the clearstory wall buttress. But only one component of the thrust of that rib is thus transmitted, and that is

*See Guadet's analysis of St. Ouen at Rouen and the ideal flying arch strut-form in my article in the August Record.

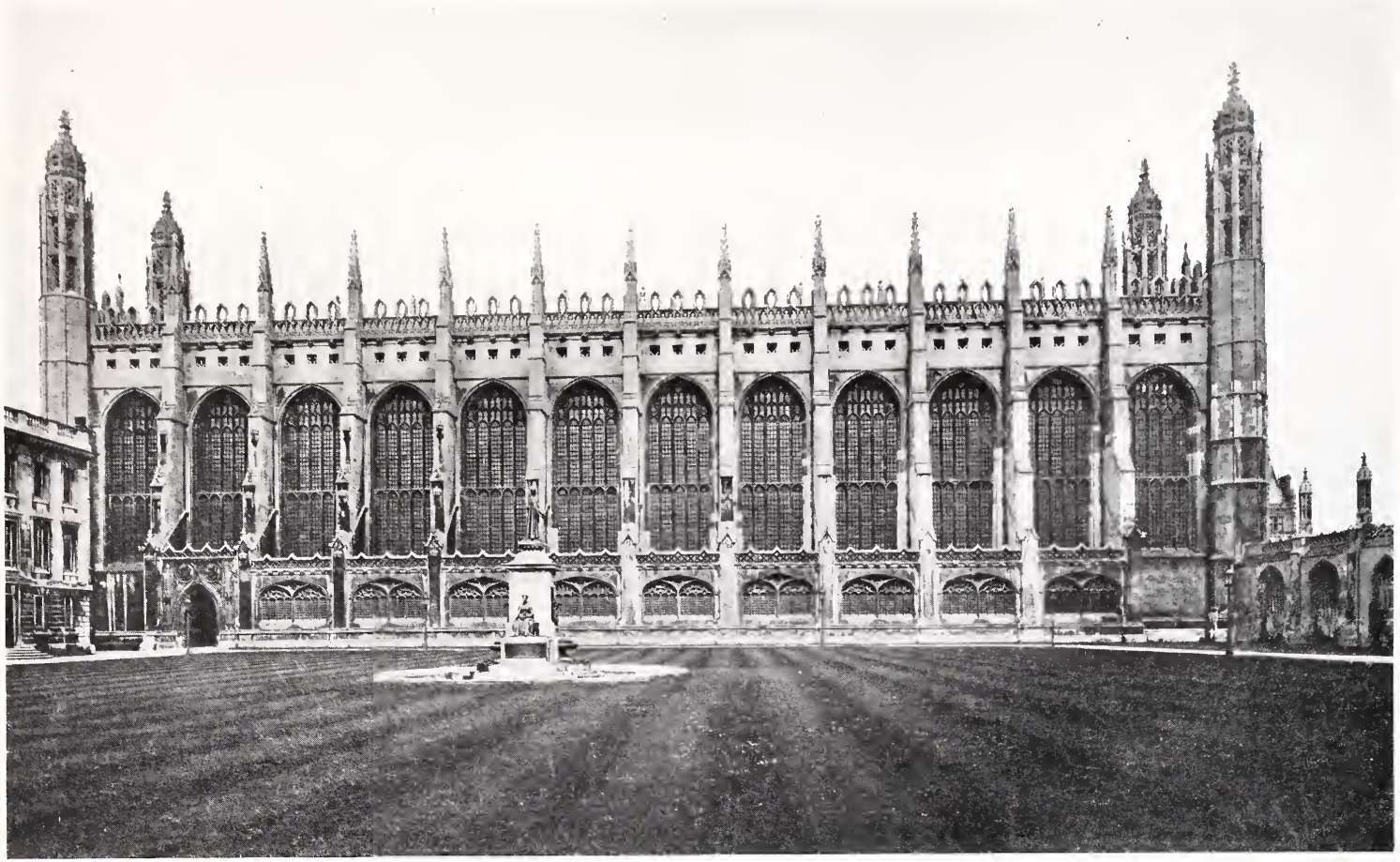


FIG. 5. KING'S COLLEGE CHAPEL, FLANK.

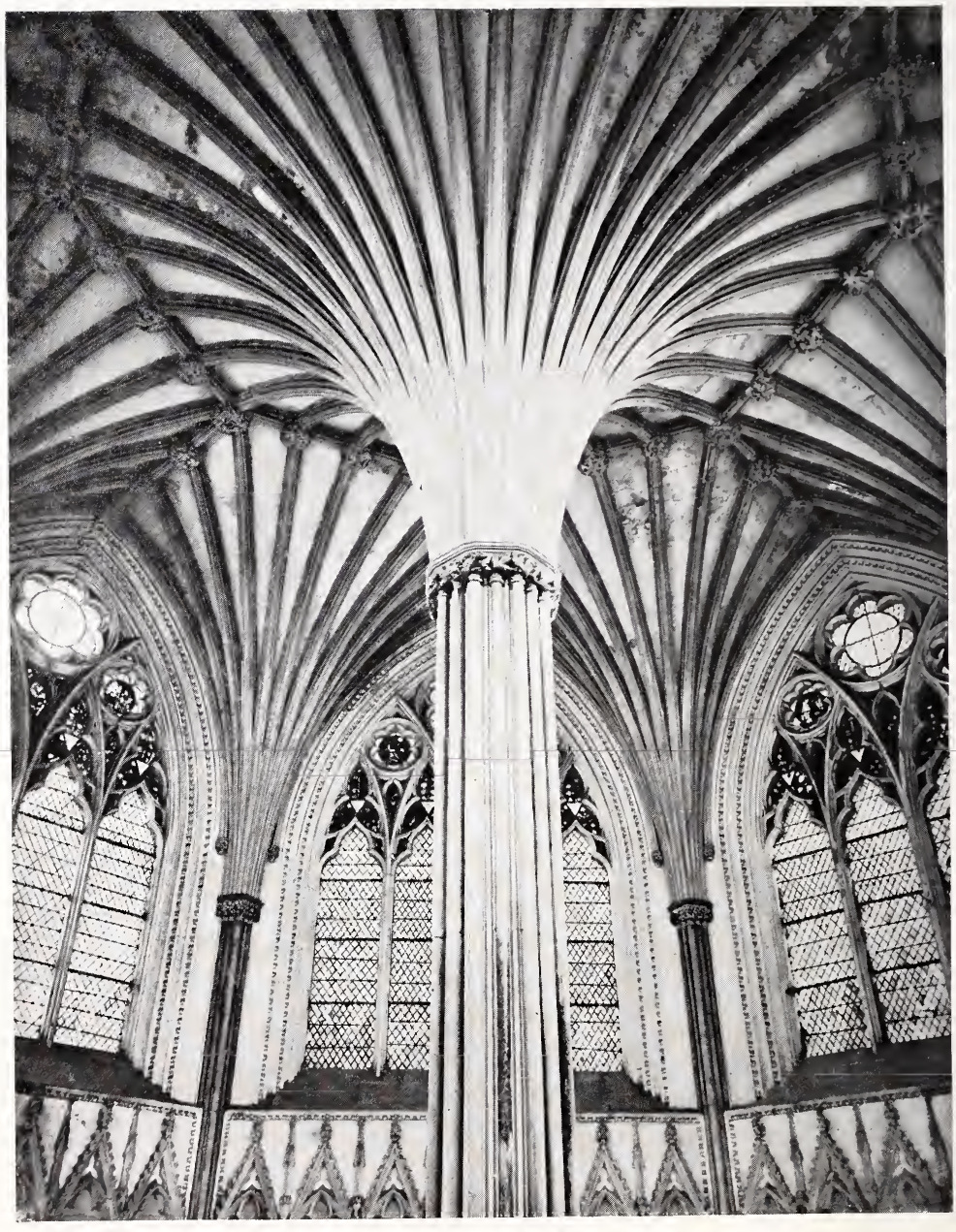


FIG. 6. WELLS CATHEDRAL
CHAPTER HOUSE, VAULTING.

but a small strain in comparison with the thrust of the great doubleau and the sections of the great longitudinal vault on either side. In the English vault with tiercerons, the load on the tiercerons is half or one-third of that on the French *ogive,* and its element of transverse thrust utterly negligible. Sir Thomas Jackson declares that in Winchester the clearstory wall was wholly detached from the ends of the transverse vaults, which nevertheless remained perfectly stable. Evidently the concentration which the French effected by stilting was quite unnecessary with the English vaults with tiercerons. The stability of the Winchester vault deprived of its clearstory abutment is pretty good evidence of the structural propriety and excellence of the English use of multiple ribs.

IV.

It is a curious fact that in the fifteenth century, after the close of the Hundred Years' War, after the completion of cathedrals for every diocese then existing in England, the ecclesiastical architects of that country developed a new Gothic style which, more than any that had preceded it, recognized and carried out the principle of the skeleton frame of stone with all the openings glazed. The two conspicuous and complete examples of this are St. George's Chapel at Windsor, and King's College Chapel at Cambridge. Indeed, it was carried out in a more thoroughgoing way than even in France, in respect at least of the west fronts, which in these two buildings are huge walls of glass framed by the stone skeleton above the low doors; and of their perpendicular tracery, which is mechanically the most scientific of all forms of tracery, though rarely quite satisfactory in the element of beauty. The vaulting, on the other hand, having exhausted the principle of the frame of ribs, had now taken on the singular form of the fan-vault, with a mere surface decoration of carved riblets or panels. Unlike the earlier vaults, these were masterworks of careful stone-cutting, marvelous in execution, mechanically correct, but no longer decoratively expressive of the construction. Certainly the long pendants sometimes used were *tours de force,* such as one would expect to find in Germany rather than in England. In Henry VII's Chapel at Westminster the attenuation of the tracery and of the wall-paneling was carried to a painful extreme. Francis Bond, nevertheless, in his *Westminster Abbey,* bestows unmeasured praise upon this chapel. Fergusson says: "It makes up in richness for any defects of detail." Most critics admire the technical excellence of its execution and the richness of its vaulting, but criticise its excessive and wiredrawn detail, its concealed cross-ribs and its showy pendants. The other two chapels usually receive fuller praise, and King's College Chapel, especially, is coming to be regarded as one of the noblest of English works, and one worthy of comparison with the finest French masterpieces.

The transition to this style was effected mostly in minor works and alterations of older buildings. One of the finest transitional vaults was that of Oxford Cathedral (Christchurch). The rich lierne vaults of the naves of Winchester and Canterbury, of Norwich and of Sherburne church all contributed to the final result. A word must be written here regarding the chapter houses. These polygonal halls, about 57 feet in diameter in the later and finer examples, were—with the exception of that of York—built with a central clustered shaft, from which ribs of equal curvature radiated to meet, at the ridge, the groins and tiercerons from the surrounding walls, or rather from the angle-piers; for in these exquisite buildings the wall is suppressed as completely as in any French cathedral. The principle of the stone frame is here carried to complete expression. Although built in the second half of the thirteenth century—at least 100 years before the earliest Perpendicular buildings with fan-vaults—it seems probable that they played a not unimportant part in suggesting the dominant features of the Perpendicular architecture. It is rather singular that they have received so little separate notice from the historians of the English Gothic style; for they are in some respects its most consummate products.



FIG. 7. BRISTOL, ST. MARY'S REDCLIFFE, INTERIOR. EXAMPLE OF A LARGE PARISH CHURCH, EARLY PERPENDICULAR.

V.

The English timber ceiling and the English parish church each deserves a chapter or at least a section of these pages, but the limits of my space forbid an adequate treatment of either. I must be very brief.

The English hammer-beam roof-ceiling is by many writers, I think quite justly, regarded as one of the glories of English architecture. It has in the first place the signal merit of being complete in itself and absolutely expressive of the facts of construction; and this is generally regarded as one of the peculiar merits of Gothic architecture in general. All vaulting in northern climes has to be protected by a covering of timber and metal or slate or tile. The outer roof does not express the vault, but hides it; the vault is a stone ceiling under the real roof. Fergusson calls them "false ceilings" and asserts his preference of an honest modern roof to the "deceptive" Gothic practice. One need not accept this judgment, while yet one may give unstinted praise to the English practice of making decorative ceiling and external roof one and the same structure, all of "honest wood." The danger from fire was little, if at all, greater than with a wooden roof over a vault.

To these ceiling-roofs the English applied, as far as the science of roof-carpentry permitted, the Gothic principle of making the actual scientific construction decoratively expressive. The hammer-beam type, as finally perfected in Westminster Hall, dispensed with the tie-beam connecting the opposite rafter-feet, and brought the ultimate resultant of the thrust (greatly reduced by a collar-beam half way up the truss) down to a low point of the wall. That the thrust was not wholly destroyed by a tie-beam, as it is in an engineer's roof truss, was due to two considerations: one practical, in the difficulty of providing tie-beams 65 feet long, and their enormous section if found; and the other esthetic, in the woful disfigurement of the perspective that would result. They would have been even more objectionable than the iron tie-rods that hold together the Italian vaults. The Westminster roof receives high praise from the Frenchman Viollet-le-Duc; the English writers are unanimous in their approval; and not only that example, but a score at least of other English wooden roofs are admired by nearly all who have studied and written about them.

The English parish churches have been made the subject of two recent works: one the remarkable and sumptuous work in two volumes by Francis Bond *(Introduction to English Church Architecture)*, and the other a single small volume by Rev. J. Charles Cox (*The English Parish Church*), a book whose value is not measured by its small size. Because so many of these churches have wooden ceilings, Professor Moore declines to consider them as truly Gothic; but if the broader definition I laid down in the May RECORD be accepted, they may rightly claim the Gothic name. Such edifices as those of Boston in Lincolnshire, of Lavenham, Sherborne, St. Mary's Redcliffe at Bristol, are highly important works, and in their class hardly equaled elsewhere except by such cathedral-like churches as St. Ouen at Rouen.

VI.

The limits allowed me for this paper have now been reached, with a result which makes me keenly sensible of its many omissions. I should have liked to speak of the English lanterns and crossing-towers; of English tracery; of English spires; of English West fronts and East ends; of English influence on the later French Gothic. I must omit all these, and also the promised discussion of Italian Gothic architecture, lest I weary the reader beyond endurance. May he bear with me long enough for a brief summing up of the conclusion which I think may fairly be drawn from an unprejudiced review of the writings I have referred to and others from which I have not allowed myself the space to quote.

The English medieval architecture was a strongly national phase of the architecture we call Gothic, if we give that term the meaning accepted by the majority of writers. It was developed from the earlier Anglo-Norman by blending with it certain conceptions and many



FIG. 8. GLOUCESTER CATHEDRAL, FROM THE WEST. LATE ENGLISH GOTHIC WEST FRONT AND CROSSING TOWER; BUTTRESSED TRACERY.

features derived from the early French Gothic, mainly by way of Canterbury choir. Unlike the French, which was primarily an episcopal and "secular" or lay architecture, the English Gothic was developed chiefly by monks, under a strong Cistercian influence, and long retained certain qualities of the Anglo-Norman style. It rejected at first the Ile-de-France conception of the frame or skeleton of stone; but it greatly reduced the Anglo-Norman massiveness and introduced many features of the French articulated Gothic. It began early to develop a new system of framed vaulting on multiple ribs with horizontal ridges and straight filling-courses. While it employed balanced and transmitted thrusts to a great extent in place of inert massiveness, it made the flying buttress system as inconspicuous as possible. The resulting buildings were longer and lower than the French, far less daring structurally, externally picturesque rather than majestic, internally showing a much richer decorative system of shafts, mouldings and ribs than the French, with all details on a smaller scale and executed with great delicacy and refinement. In place of the rigid logic of structural expression of the French Gothic it displays a logic of esthetic effect and expression which gives its works a remarkable harmony and an undeniable charm. As the style progressed the decorative element still further increased in importance, especially in the vaulting, while the conception of the stone frame, for the first time realized in England in the chapter-houses of the late thirteenth century, became dominant in the Perpendicular buildings of the fifteenth century.* English tracery, at first based on French models starting with Reims, attained far greater variety than the French, later sending back a reflex influence to France, and ending in the dry, mechanically logical Perpendicular type. English timber ceilings, based upon Gothic principles applied to carpentry, were a notable and peculiarly English product. English West fronts are in many cases wholly illogical designs, though often picturesque; more logical fronts like those of Winchester or of King's College Chapel are apt to be flat, thin and uninteresting. East ends are far more satisfactory, and the English East and West windows are unrivaled in size and splendor of combined tracery and glass.† English towers and spires, tombs, chantries and reredoses, all exemplify a very high skill in design, controlled by a sure judgment of picturesque and decorative effects.

The ideal of Gothic architecture was realized in France. The English Gothic was not ideal, but thoroughly practical and imaginative rather than logical; it always avoids logical extremes. In its final form, the Perpendicular, "it is less religious and more secular . . . It has no mystery, no depth of symbolism but no style shows . . . a more complete mastery of technique or a truer sense of the beauty of outline and composition in the mass."‡ "In England, it (her special gift) lies in the hewing out of dramatic contrasts and picturesque and strong effects. In doing this, one defect is evident. It is the lack of logic."§ "Throughout, the English sought only to erect the building then most suitable for its destination with the best materials available for the purpose."|| "Economy of material was not, as a scientific abstraction, the end of its effort, but only so far as it was the means whereby were gained directness of expression and the rejection of superfluities" (Prior, *Gothic Architecture in England*).

*E. A. Freeman and Moore agree that the Perpendicular is the finally distinctive English style, but Moore denies it any claim to be called Gothic ("Development of Gothic Architecture," p. 427).

†Professor Moore's criticism of Gloucester West window with its buttresses against two of the mullions is wholly sound from the artistic point of view. But the objection to these buttresses on the ground that wind-pressure forces a window in and not out, although perhaps valid for the majority of cases, overlooks the fact that windows are frequently blown out and not in, owing to the low pressure outside that often accompanies violent gales. Perhaps the Gloucester builders had experienced or witnessed that phenomenon, frequently observed in New York.

‡Jackson, *op. cit.*, II., 95.

§Frothingham, *op. cit.*, IV., 6.

||Fergusson, "History of Architecture," II., 120.



INDIAN HILL, WORCESTER, MASS., FROM ACROSS THE LAKE, WITH A GLIMPSE OF THE FIRST FEW HOUSES.



INDIAN HILL

AN INDUSTRIAL VILLAGE AT WORCESTER, MASS.

Grosvenor Atterbury
Town Planner and Architect

By Charles C. May

A DESCRIPTION of the settlement which the Norton Company of Worcester, Mass., is building for its employees might well take for its text, "A city that is set on a hill cannot be hid." Certain it is that if the development is successful, its attractions will become a beacon to the countryside for miles around; if it should fail in any considerable degree, its shortcomings will become a lesson that he may read who runs anywhere in the vicinity.

This means that Indian Hill is the possessor of a most commanding site. Removed by several miles from the heart of the city of Worcester, lies Indian Lake, a sheet of water of perhaps a mile and a half in length by half as much in width. Its banks have not, as yet, been reached by industrial development and lie happily unspoiled—a challenge to the city of Worcester for appreciation and preservation.

Indian Hill itself—the "thirty-acre tract," as it has been named during the development—occupies the lofty ridge that thrusts its point out toward the head of the lake. Before it lies the open country in opulent variety in all directions, to the limits of perhaps 300 degrees of the circle. Holding the northern end of the lake, the major part of the hillside slopes toward the south, with the higher wooded areas at its back for buffers against the north winds. This is a detail of not merely sentimental value, for in these latitudes the land of extended outlook is also the land of bitter-cold blasts.

Almost the only blemish in the whole prospect is the branch of the Boston & Maine R. R., which skirts around the hill from the north and then diverges straight off to the east to join the main line. Where it skirts Indian Hill proper the tracks run in a deep cut, coming to the surface as they leave the high ground and approach the junction. In itself this cut is frankly a scar on the natural hillside. One might wish it otherwise, but it is exactly such fixed conditions that the town planner must accept, study and, if it is possible, transform into his opportunities.

Back from the northeastern corner of the lake and within the angle between the main railroad and its branch, lies the plant of the Norton Company, whose area hardly remains constant from month to month, so rapidly have its physical requirements expanded within two years. A statement as of August, 1916, would place its extent at twenty-six and two thirds acres—a modern plant manned by some 3,700 employees. Primarily for the adequate housing of these men and their families was formed the Indian Hill Company, a subsidiary of the Norton

Company, entitled under Massachusetts laws to acquire, develop and dispose of real estate. It is accordingly the Indian Hill Company which has brought together and is now engaged in developing holdings of some 116 acres, of which Indian Hill proper forms the first demonstration. The development, we have said, is primarily to provide adequate housing for its employees, with a view toward individual ownership, permanency and contentment in employment, and resultant general efficiency. In these objects the company is self-seeking only in the same degree that the word might be applied to those others of its institutions for the office workers—the auditorium, the gymnasium, the rest-periods, the hospital, the tennis courts, to name some of them at random.

Secondarily, and in no sense selfish, was the company's hope that in wrestling with their own housing problem they might at the same time make some contribution toward the solution of the wider problem of workingmen's houses in general and toward the suppression of that pest of Massachusetts—the wooden three-decker. It is an outcome devoutly to be wished.

One cannot be too thankful that Indian Hill did not belong to one of those communities where the rule of a standardized street system reigned supreme. Had it been so their engineers would have done exactly what New York's did to Manhattan Island—they would have laid down on the map of Indian Hill a gridiron of rectangular streets that had no respect for height nor depth, that recognized no main artery where traffic would naturally congregate, that had no eye for a magnificent view, that could afford no resting point with an outlook toward the sunset. Is it inconceivable that anything so inflexible and utterly devoid of imagination could happen to a spot like Indian Hill? Yet, remember that in 1807, when New York's plan was concocted, the Island of Manhattan above Chatham Square lay as virginal and as unstandardized as is Indian Hill today.

The plan that has actually been worked out by Grosvenor Atterbury of New York, town planner for the development and architect for the houses, is the result of careful study of all the conditions. It seeks to secure the best possible grades for the main circulation roads, and only slightly steeper for the minor, non-traffic ones; it shows deference for the natural features of the site in conformation, woodlands, views and exposures; it seeks to provide quiet by-paths away from the lines which will one day be thronged with streams of traffic, in order that in these spots may always be preserved that domesticity, intimacy, and hint of aloofness that belongs rightly to cottage surroundings.

The main lines for traffic, as projected, are Indian Hill Road and the street that climbs up the shoulder of the hill after crossing the railway cut and circling in a double sweep to enter the Community Center from either side. This latter approach anticipates the creation of a shore drive which, it is to be hoped, will some day skirt the edge of the lake, where it would form a connecting link between the areas on the east and west. A cross connection of some sort must in the future become immensely valuable, since the steepness of the slopes prohibits any other east and west link within a reasonable distance. This shore drive would furthermore preserve the banks of the lake to the city for all time and prevent private exploitation in a manner that might injure the entire section. And, to put the aesthetic element last, as the town planners have fallen into the habit of doing, this shore drive has the possibility of becoming a feature of very great charm, one that will attract to the region a considerable and desirable volume of motor and other traffic.

The Community Center is placed at a point which combines the geographic location needed for such a gathering place, with other desirable elements. It holds the salient point on the shoulder of the hill, where grades are least difficult to manage; it will witness the passage of nearly all the through travel of the section; it commands a magnificent view, which should in itself prove a magnet to attract the strolls of the villagers. To enhance the charm of this outlook the side of the square toward the lake will be left



GENERAL PLAN OF INDIAN HILL, AN INDUSTRIAL VILLAGE FOR THE NORTON COMPANY, WORCESTER, MASS. GROSVENOR ATTERBURY, TOWN PLANNER AND ARCHITECT.



A TYPICAL STREET SCENE—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Town Planner and Architect.

open and treated as a public terrace. Footpaths will also be brought down the steeper slopes of the hill toward the Centre in order to provide easy crosscuts and thus make it readily accessible for pedestrians, shoppers and strollers.

The secondary streets are, in the majority of cases, contour roads. Looked at merely as a paper plan, the layout is definitely lacking in cross connections. But, studying the topography, one realizes that gradients so steep as these would be impossible for any but travel on foot, and that to create roadways suitable for vehicles would entail expenses quite prohibitive in a development of this character. The footpaths just mentioned are therefore by way of a compromise to break up the long blocks.

When it was first proposed to develop the lovely little grove which is now Nashoba Place in the manner of a close, it was an open question whether or not such an arrangement would appeal to the American buyer (or to the foreign-born employee grown American in tastes). Experienced real estate men have told us repeatedly: "First of all, give each one his full share of frontage on the building line. The American loves his look at the asphalt." Mr. Atterbury had faced this situation before in the planning of Forest Hills Gardens. There, despite pessimistic views as to American discrimination, groups involving so-called "rear" housing units were liberally used, but with some fear and trembling for the outcome. Actually, the very first sale was a house that had greater setback, less view of the asphalt; from that day on there has never been a doubt of the saleability of grouped units, in Forest Hills.

At Indian Hill the question was reopened in a development of a different character. Here the provision of public amenities was to be more limited, the cost of private houses far less, the whole project more circumscribed by financial limitations. Yet here, too, where the very modest little house could rely upon little landscaping or "trimmings" to dress it up, the result has been identical with that in Forest Hills. Faith has been justified in believing that in most cases the buyer (be it of a house to cost $3,000 or $10,000) needs only to be shown. True,

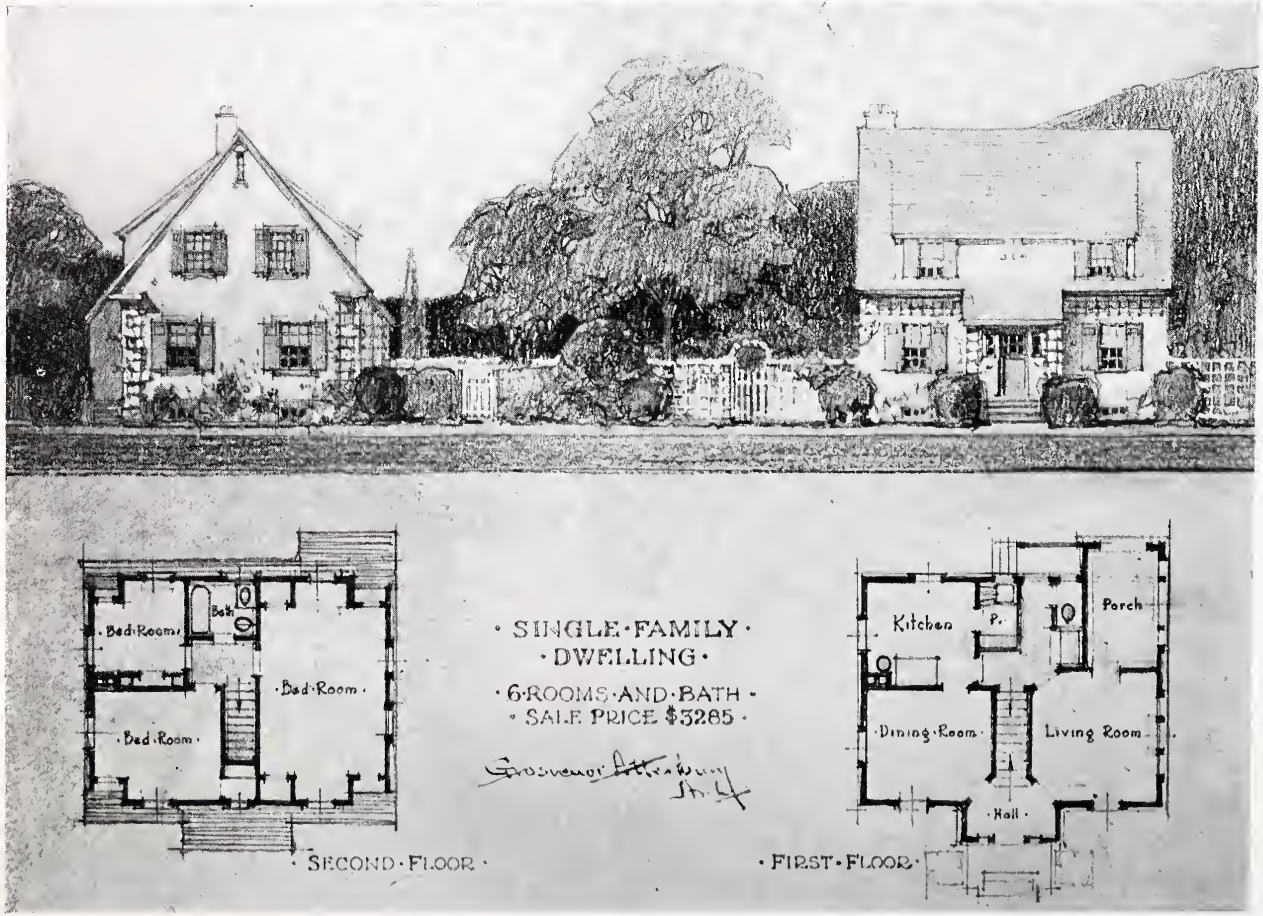


LOOKING UP INDIAN HILL ROAD—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Town Planner and Architect.

he lacks usually, in both cases, the imagination to see it for himself, exactly as he lacks the training to read an architectural elevation; but given some one to put the demonstration on the ground before him, and perhaps to explain a few of the *whys,* he is by no means slow to grasp the truth and to act upon it. Nashoba Place has accordingly been successful from the first; fully occupied, tastefully planted, delightfully sheltered, it already has some of that quality which, a few years ago, one sought vainly in this country and found only by traveling to England or Germany.

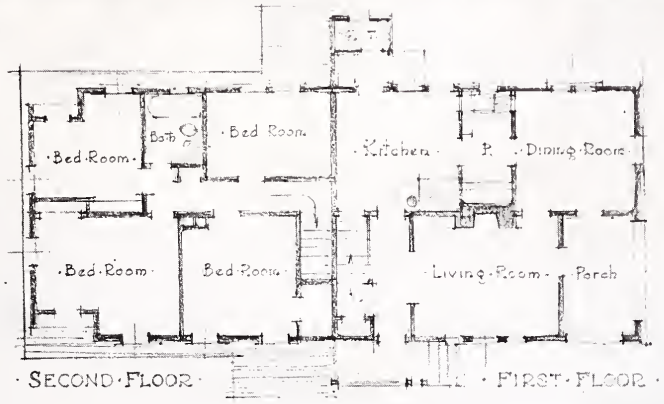
Construction work at Indian Hill has heretofore been confined to dwellings—some fifty-eight of them, built in two operations during the summers of 1915 and 1916. Enough has been done to give a suggestion of the ultimate look of the town—white walls seen among the trees, roofs gray green to unify the composition. The white was selected because of its consistency with New England traditions, because of its effectiveness, viewed from close at hand or from a distance, and because, unlike any other color, it can be repeated in a great number of cases without becoming tiresome (witness the delightful village of Whitinsville, also in Massachusetts). Slate was chosen for the roofing material because of its economy, its fire-resisting qualities, and because the color is good in itself. The roof material is the same throughout, as we have said, to bring unity into the composition. Where a collection of houses can be seen all together and from a distance, this common bond between the individual units is of the greatest value; it is like the family resemblance that marks them all one kindred; it is like the soldier cap that transforms the gang of boys into a regiment. Only by this and similar evidences of collective planning can there be produced dignity and carrying power in an aggregation of which the units, taken singly, must be too small or too insignificant to be effective.

This problem is peculiarly pressing at Indian Hill, since the number of buildings other than tiny cottage units, is at a minimum. For, by a curious psychological kink, the grouped party-wall dwellings



SINGLE FAMILY DWELLING—INDIAN HILL, WORCESTER, MASS. GROSVENOR ATTERBURY, ARCHITECT.





SEMI-DETACHED DWELLING
FOR TWO FAMILIES
7 ROOMS & BATH EACH
SALE PRICE $3630 EACH

SEMI-DETACHED DWELLING FOR TWO FAMILIES—INDIAN HILL, WORCESTER, MASS. GROSVENOR ATTERBURY, ARCHITECT.

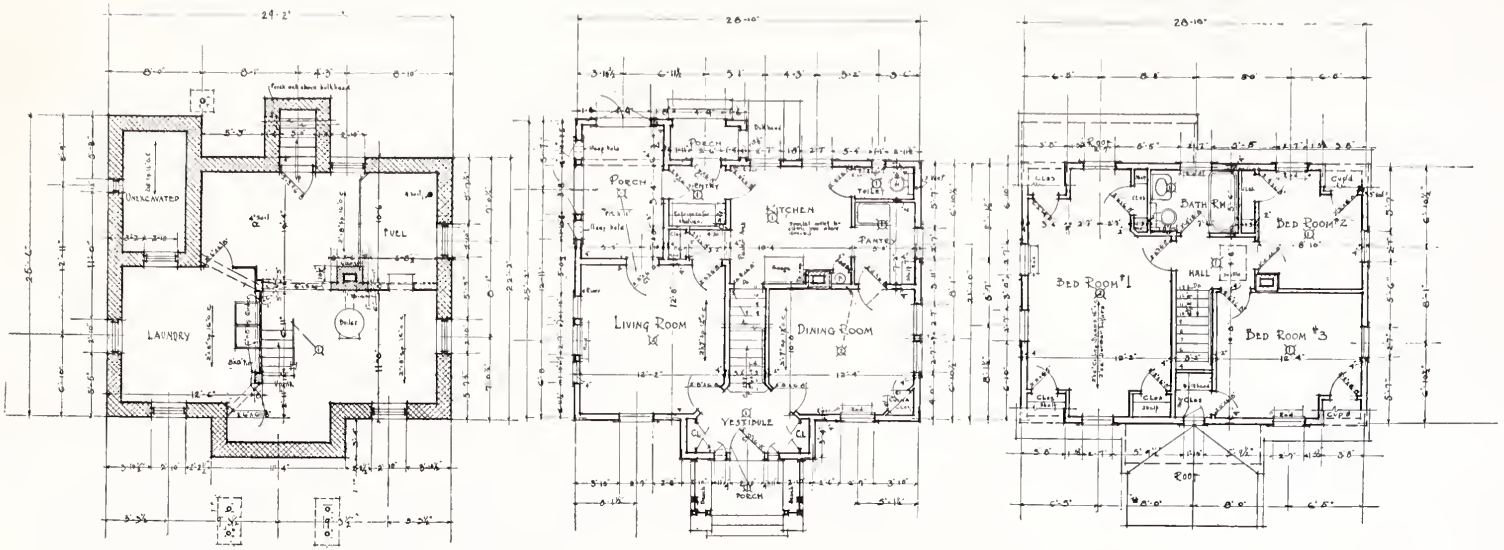


A HOUSE OF TYPE D³ ON INDIAN HILL ROAD—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.

that are the rule in English Garden cities, that are eminently successful at Forest Hills Gardens, are usually rejected with scorn by the industrial worker. He pridefully insists that his dwelling (to cost one-third as much as those, for example, at Forest Hills) shall be placed on its own lot, with free spaces all around, and shall be guarded to the last foot from any loss of power in its proclamation of individual ownership. Even the two-family semi-detached house, although planned to give perfect privacy, exposure and open spaces, does not as yet appeal strongly to the buyer, except in special circumstances of relationship or a David-and-Jonathan intimacy between two families.

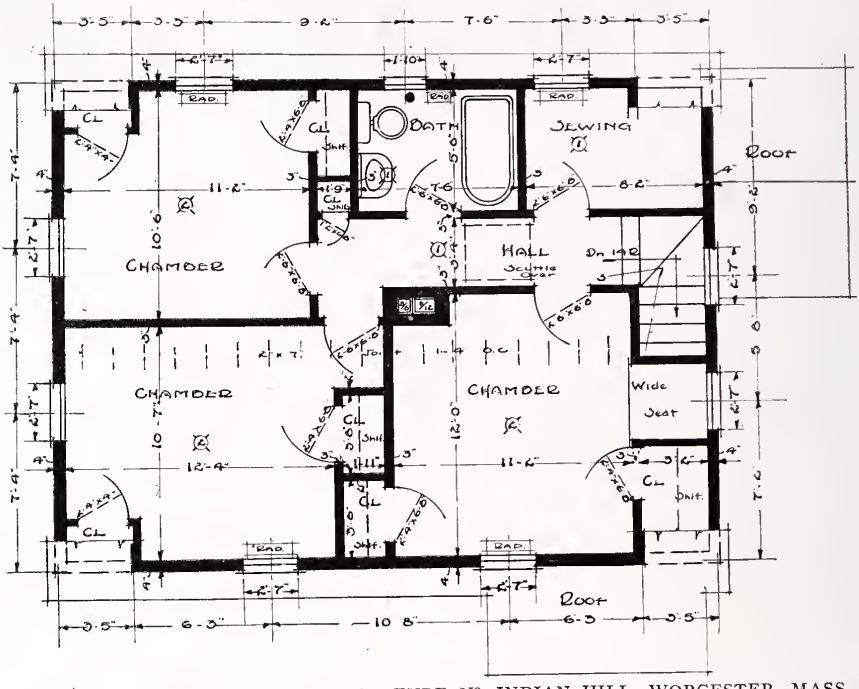
Further development will, of course, work vast improvement in that there are already provided site reservations for several buildings of adequate mass in different sections of the property. There is the Dining Hall, at the fork of the streets as one enters Indian Hill from the plant; the Satucket Inn, really an exalted boarding house for bachelors, embodying the features of a club; a similar institution for the bachelor girls of the office force, a chapel, a recreation hall. Considering that these are quite apart from the buildings that will form the three-sided enclosure of the Community Center, we may feel that the amount of reservation for larger buildings is generous enough to go far toward overcoming the handicap of the minuteness of the individual units.

When the time came for naming the streets, the cue from local tradition was obvious. Upon Indian Hill, at the head of Indian Lake, one would hardly impose an assortment of Broadways, Main Streets or Grandviews. On the other hand, it was comparatively simple to find Indian names which would respect tradition, sound well and at the same time possess some distinction of their own. The first selection of names proved that the danger of a little knowledge was no more absent from this than from other pursuits. An expert in Indian lore, called in to visé the list before final christening, found that about half the names were distinctly applicable to the ocean and its shores. This naturally de-

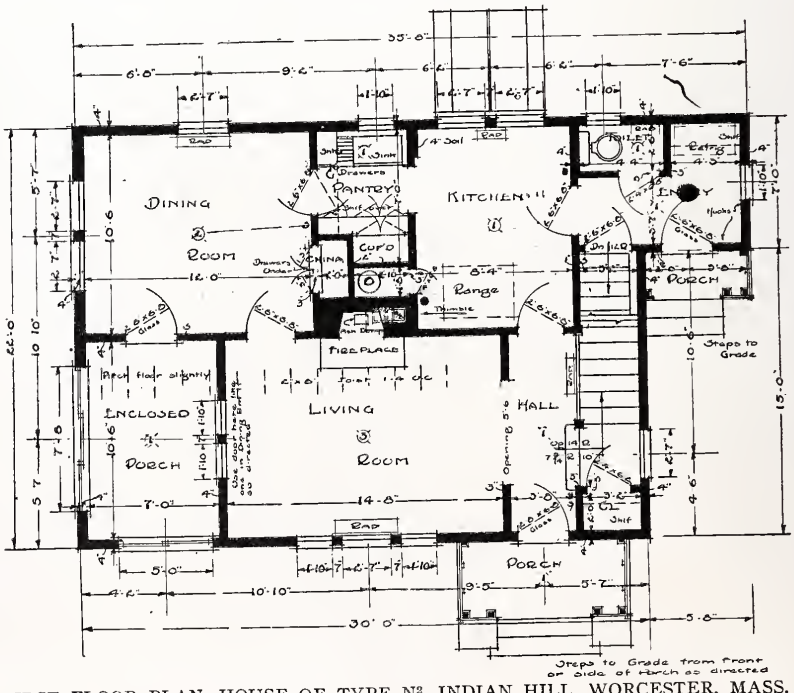


BASEMENT PLAN. FIRST FLOOR PLAN. SECOND FLOOR PLAN.

FLOOR PLANS FOR TYPE D³ HOUSE—INDIAN HILL, WORCESTER, MASS. GROSVENOR ATTERBURY, ARCHITECT.



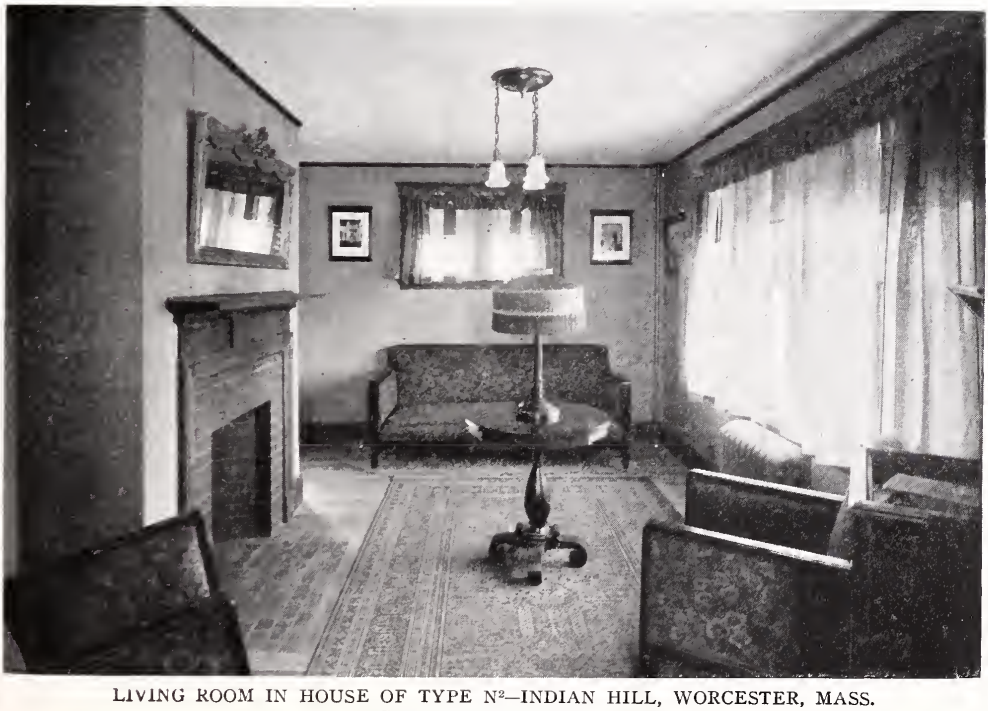
SECOND FLOOR PLAN, HOUSE OF TYPE N²—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.



FIRST FLOOR PLAN, HOUSE OF TYPE N²—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.



HOUSE OF TYPE N² ON INDIAN HILL ROAD—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.



LIVING ROOM IN HOUSE OF TYPE N²—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.



A HOUSE ON NASHOBA PLACE—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.



A SEMI-DETACHED HOUSE FOR TWO FAMILIES—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.



AN INDIVIDUAL HOUSE OF THE SMALLER TYPE—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.

manded revisions, in which "Big Wave," "Long Beach," and the like were exchanged for names which signified "Great Oak," "Open View," and so on.

In a countryside as open and unrestricted as in Indian Hill today, it would not be surprising if it were difficult or impossible to prove to the promoters the wisdom of large reservations for park areas. Fortunately this has not been true. It is the policy of the Indian Hill Company to preserve generous tracts of high, wooded land as a playground for the villagers; certain parts of the lake shore will doubtless be developed for bathing, boating and water sports; and over along the east base of the hill will be the general recreation center. A comparatively slight amount of modeling will make the side hill into a natural amphitheatre, before which will be spread out the baseball field, the running track and their adjuncts.

Beside park areas for the general public, serious consideration is being given to the question of providing small parks in the interiors of various blocks as a play space for the children from the homes surrounding.

The numerous advantages of this system—safety, accessibility, economy of land value, ease of supervision—are all so familiar and so generally recognized that comment is uncalled for. One special feature might be noted, however, as an exceptional opportunity. The higher portions of Indian Hill contain several excellent springs which, unused, might become troublesome. They must be controlled by piping into the storm sewer. To do this and nothing more would appear to be neglecting a splendid opportunity. Piped into the private parks, these springs would, for a ridiculously small outlay, afford the bit of quiet water that would be the completion of the picture, the final element of charm usually left out in such cases because too expensive. The older boys and girls could swim in the lake and the younger children could wade and splash and have a generally wonderful time. For their sakes, if for no other reason, the springs should not be consigned to waste their



A TYPICAL BEDROOM—INDIAN HILL, WORCESTER, MASS.
Grosvenor Atterbury, Architect.

streams of pure water forever unhelpfully into a sewer.

Certain parts of Indian Hill are beautifully wooded; there are several fine specimen trees worthy to form landmarks; elsewhere the planners have started to make good any tree deficiencies. Not only have they adopted a program for tree planting along the highways, but included in the purchase price of every house is a small amount representing the beginnings of a landscape treatment for that particular lot. The amount is small because the operation is a wholesale one; the results have a unity and breadth of scale which would be impossible were the planting left to individuals. This is by no means a criticism of the individual enterprise and taste of the owners; it means simply that in this department, as in others, the advantages of collective planning are apparent.

Buyers at Indian Hill have every reasonable assurance of the stability of their purchase. They know of the substantial materials that have been built into their houses (brass supply piping and copper flashings are not used by the jerrybuilder), and they know that no man can plant next door a factory or a store or a saloon. In other words, the property is all sold under carefully considered protective restrictions, which are accepted and recognized by the purchaser as equally valuable to themselves as to the company.

The terms of sale have been made most liberal. Two notes, one a time note to run for twelve years, the other a demand note guaranteed against calling so long as the interest payments are kept up, both secured by the company's mortgage, are the bases of the transaction, and enable them to omit any second mortgage. A further agreement binds the buyer to subscribe to a certain number of shares in a co-operative bank, which shares are assigned to the company. There is, too, an insurance provision to cover cases of purchasers' death or total disability before the expiration of the twelve years. These articles have made possible the sale of houses upon a very small initial payment, often less than ten per cent. of the price of the house and lot.

Regarding the houses themselves, the plans and photographs reproduced herewith speak as clearly as any description. They are, as Col. Roosevelt said during a recent inspection, good enough for any good American to live in. They could have been built more cheaply, but materials would have been inferior; the costs could have been less in 1915, but greater in 1925. In other words, the company has regarded the project as an investment for its own members, and in this aspect the long view of the transaction is the only justifiable one.

The costs of these houses individually shed an interesting illumination upon comparative prices of building as between 1915 and 1916. For instance, the constructional cost of the six-room house, known as N^2, has jumped from $3,188 in 1915 to $3,791 in 1916—an increase of nearly 19 per cent. The other types show similar results, though not quite so exact a comparison is possible, since certain changes were made by way of added features; the demand for the houses of ampler accommodations more than offsetting the burden of increased cost.

These prices are further interesting in their relation to the study of variations due to local conditions. Mr. Atterbury is just now engaged in studying the general plan for Erwin, an industrial town in the Blue Ridge section of Tennessee. In this case a six-room house, closely comparable to the N^2 type quoted at $3,791 in Massachusetts in 1916, has just been contracted for at $2,525. Or, to put it upon a cubic foot basis, the Massachusetts house has mounted during the summer to about $0.19 per cubic foot from the $0.16 of the year before. The Tennessee house, greater in actual size, and only slightly inferior in general finish, is being built at almost exactly $0.10 per cubic foot. In a time of violent fluctuations from month to month, here is a variation between localities that is even wider.

As to the general costs of a development such as Indian Hill, we find that the improvement of this acreage, that is, sewer, sidewalk and road building, tree planting and seeding, have amounted to just about 7 cents per square foot. This rate does not take account of overhead and administrative costs, which were not available. The amount chargeable to each of the fifty-eight houses built thus far, for town planning and architectural services, has come to about 2 per cent. This burden, moreover, light as it is even now, rests most heavily upon these first groups and will decrease still further with the progress of the development.

Any visitor to Indian Hill who would visit the interior of these cottages with a spirit of curiosity, or perhaps a touch of condescension as to their furnishings, is likely to receive a sharp mental jolt. The company, it is true, decorated and furnished a couple of houses to act as friendly counsellors to the others, but discounting this aid, it is only just to say that the average of taste displayed in these homes is remarkably high. There is very little overcrowding; the mass of gimcrackery is conspicuously lacking; there is discrimination, selective choice, and restraint everywhere. If one has sometimes been downcast by the bedevilment often worked by owners of mansions in their furnishings, let him turn to industrial cottages such as these and be encouraged.



WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN. GEORGE W. MAHER, ARCHITECT.

THE WINONA SAVINGS BANK AND WINONA NATIONAL BANK BVILDING WINONA, MINN

GEORGE W MAHER. ARCHITECT

By Peter B. Wight

GEORGE W. MAHER, architect for the Winona Savings Bank and Winona National Bank Building, is well known as one of the "progressive" architects of Chicago. He has designed many rational and beautiful city and suburban dwellings; and the Patten Gymnasium of the Northwestern University, at Evanston, Illinois, is the principal of a number of large buildings of a public character, including several schools, which have been erected from his plans. Among the latest buildings of this kind are the new laboratory and the administration building of the J. R. Watkins Medical Company, at Winona, the latter of which was so beautiful and appropriate to its purpose that the new bank building, just completed, naturally fell under his professional charge.

This building, it will be seen, is unique and original in its conception and execution, for it is doubtful if there is another financial institution like it in this or any other country. It is called by its managers an "Institutional Banking Home," and it is owned by two banking corporations, both having the same president, the Winona Savings Bank and the Winona National Bank.

The Winona Savings Bank was opened for business in 1874. At that time Winona was the seat of the lumber business for that part of the Mississippi Valley, having extensive sawmills which manufactured the lumber from the logs that were floated down the river. It was noted for its prosperity and wealth. But as the tributary country became denuded of trees, the lumber industry declined for want of supplies. This continued until 1909, when the last sawmill disappeared. The Savings Bank, which had been built up by this business, was, however, recouped by the growth of other manufactures, and its business has increased until the present time. Meanwhile the Winona National Bank was incorporated by the same management practically, and it became necessary to have a new building to accommodate both of them. Hence the twin building, which has two names, but a central working section.

It was decided also that these institutions, so intimately allied with the business and progress of Winona, should develop a new idea in banking—that they should encourage all sociological movements which might conduce to the prosperity of the city, and consequently to the increase of the business of the banks, and at the same time practice economy by sharing in some of the expenses incidental to the management of the building. For the first of these purposes they devoted the second story to institutional work, providing meeting and social rooms on the second floor for such associations as might be of a public spirited nature, as well as a library and exhibit room for products of the soil or of manufactories. These, therefore, had to be provided for and brought up new problems for solution by the architect. All of this was the result of suggestions made by Mr. Maher after he had been retained. The whole scheme was one calling for special study, and the ground plans herewith illustrated will show its result. Mr. Maher entered into it with intense interest, and the outcome seems to have met with the enthusiastic admiration of the bank managers and of the people of Winona.

To understand how the problem appealed to Mr. Maher, we may hark back a few years to an occasion when he had centered his ideas on the proper mission of architecture, for this building appears to be one of the practical expressions of the creed which he then gave utterance to in an address before a club composed of young architects and draftsmen. Here is a building of which the thoughtless observer may jump to the conclusion that it is in the Egyptian style of architecture

(whatever that means), while it is in reality the result of deliberately avoiding all stylistic tendencies. These few extracts, therefore, will enable those who read a little farther to understand Mr. Maher's views as to the state of mind a man should be in to practice architecture in a modern and democratic way:

"Let it be well understood that progress, or a freedom from precedent, does not mean a lack of knowledge of the past, for no architectural training is worth while unless rooted in a profound knowledge of that which has gone before. No one should expect to design on progressive lines who is deficient in architectural training and history. Thebes, Athens and Rome offer fruitful examples of enduring work and represent to us a heroic past. On the other hand, merely familiarizing one's self with the form and style of architecture found in these grand ruins of antiquity is not sufficient as a training for our art.

"Wherever in the history of the past we have found great achievement in whatsoever line of endeavor, there it is that men lived who heeded well the spirit of their times, who drank deeply from the inspiration of the life which surrounded them and who did not in any manner strive to conceal that life, humble and ordinary though it may have been, but whose strong conviction was to live honestly and truthfully, painting as it were a living portrait, giving full expression to what they saw.

"We co-workers in the building of the West should be influenced, even dominated, by a spirit of action that shall produce results speaking of our day and generation; and to the extent that we permit ourselves to be so dominated by this spirit of progress, to that extent are we real and worthy of our calling. In the realm of architecture I would say that to solve our problems satisfactorily it behooves us to dip deep into the currents of life round about us, feel the pulse of the times and then actually execute the ideals of the present hour; and if we do this work truthfully, intelligently, our efforts must be enduring."

Let us see, therefore, if he still holds to his old teaching. To elucidate this I can do no better than to let him describe this building in his own words, which I have taken down as follows:

"The Winona Savings Bank represents a new theory in bank construction, founded on American ideals of art and architecture. The plan and general design follow no precedent either in this country or abroad and are therefore original and American in spirit.

"The general theme was to evolve a structure that should be practical and fitting in every respect to house such locally strong and influential financial institutions as the Winona Savings Bank and the Winona National Bank.

"The architecture was to express the idea of service and of beauty; the building was to be so arranged and designed as to be of practical and educational value to the community and thus to be in harmony with our democracy and our Americanism."

"With these fundamental purposes in mind, it will be noted that the exterior design directly reflects the general aspect of the interior plan; that is to say, the interior purpose of the edifice is clearly portrayed on the façades.

"The center is monumentalized by a pylon treatment heroic in scale and representing strength and conservatism. As one approaches the building, the massive scale of the central entrance is enhanced by the two polished granite columns which dominate this exterior effect. The columns are monolithic, weigh thirty-two tons each, are thirty-six feet high and are treated in an original manner for column work from the base to the capitals.

"The capitals of the columns are carved, embodying an original type of ornament founded on the American lotus flower and leaf, which motif appears and reappears throughout the exterior and interior design of the building in granite, in decoration, in marble and in art glass work.

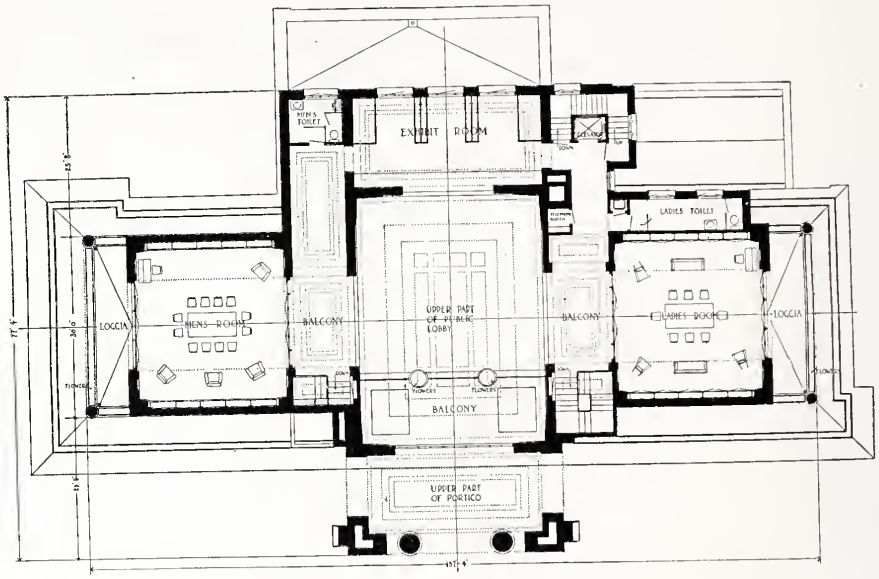
"The large exterior wall surfaces typify strength and solidity, necessary for a monumental building. This effect is in no way impaired by the windows on either side of the entrance; in fact, these large window openings aid in the breadth and simplicity of the design.



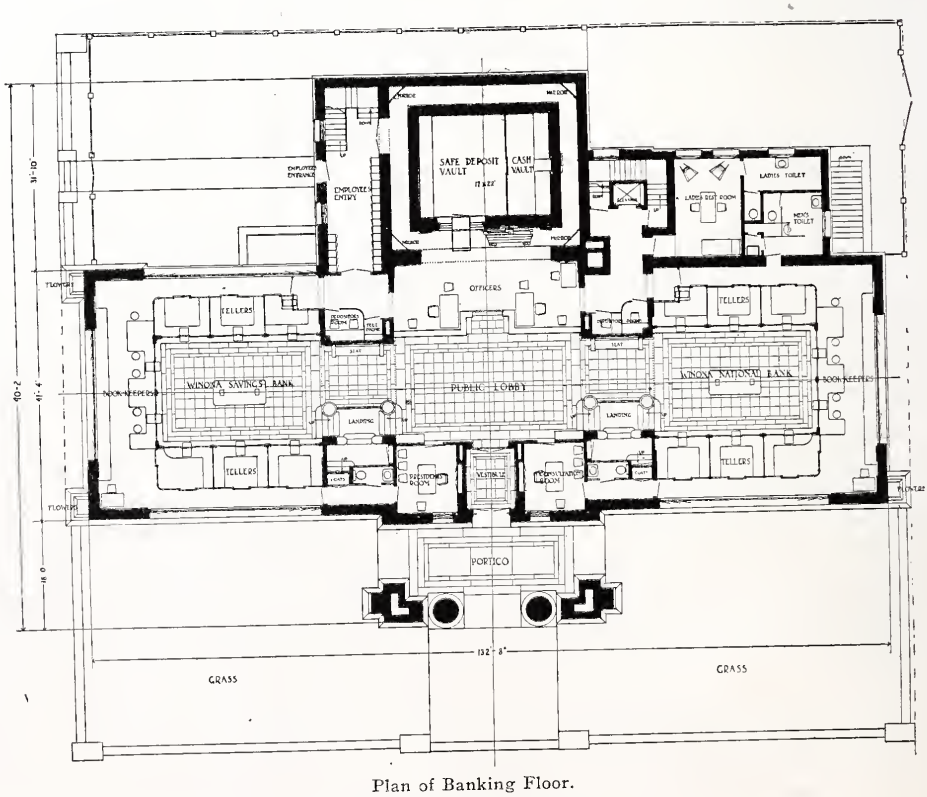
FRONT VIEW—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN.
George W. Maher, Architect.



REAR VIEW, FROM THE EAST—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN.
George W. Maher, Architect.

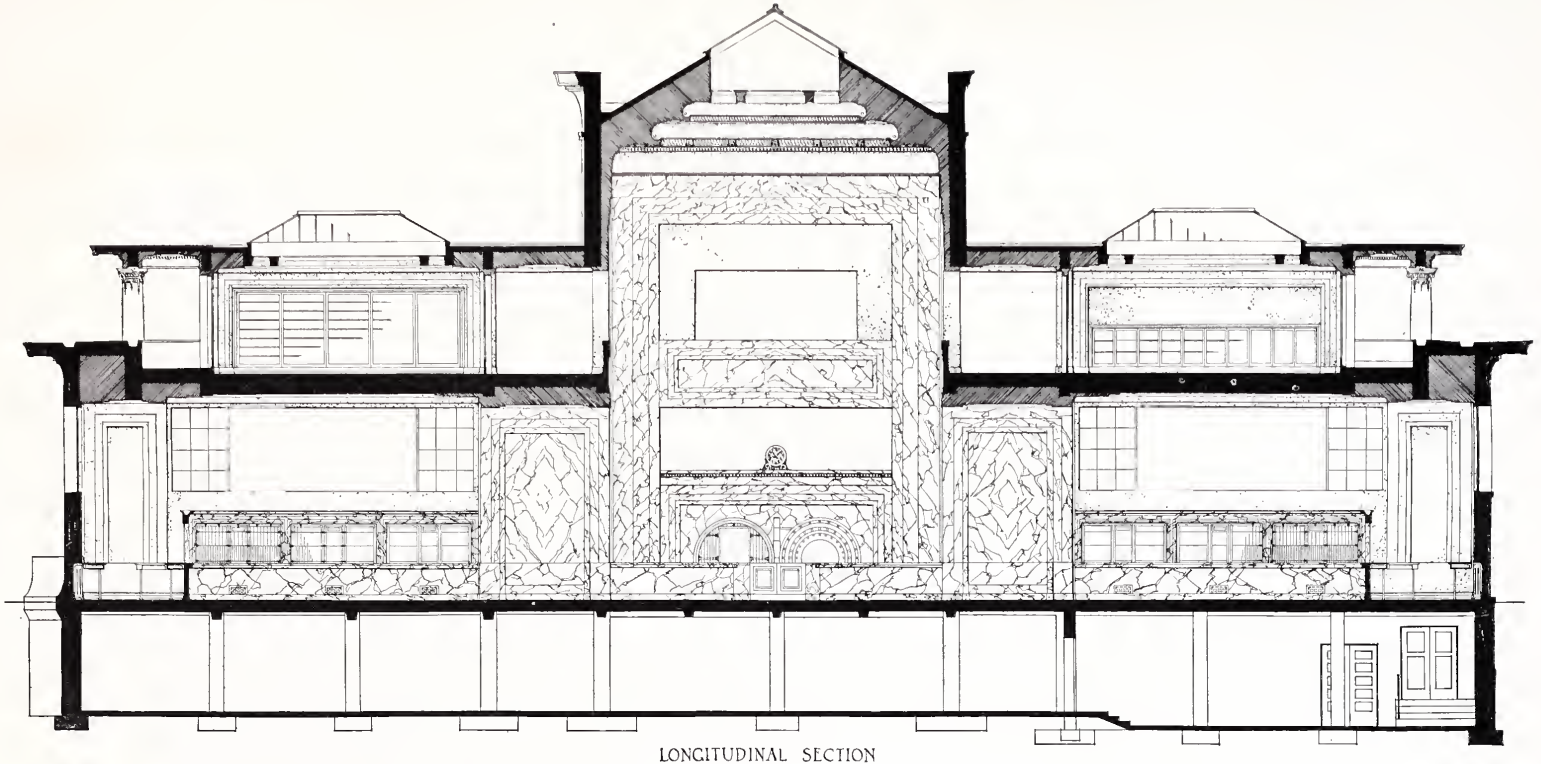


Plan of Institutional Floor.



Plan of Banking Floor.

WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN.
George W. Maher, Architect.



LONGITUDINAL SECTION

WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN. GEORGE W. MAHER, ARCHITECT.



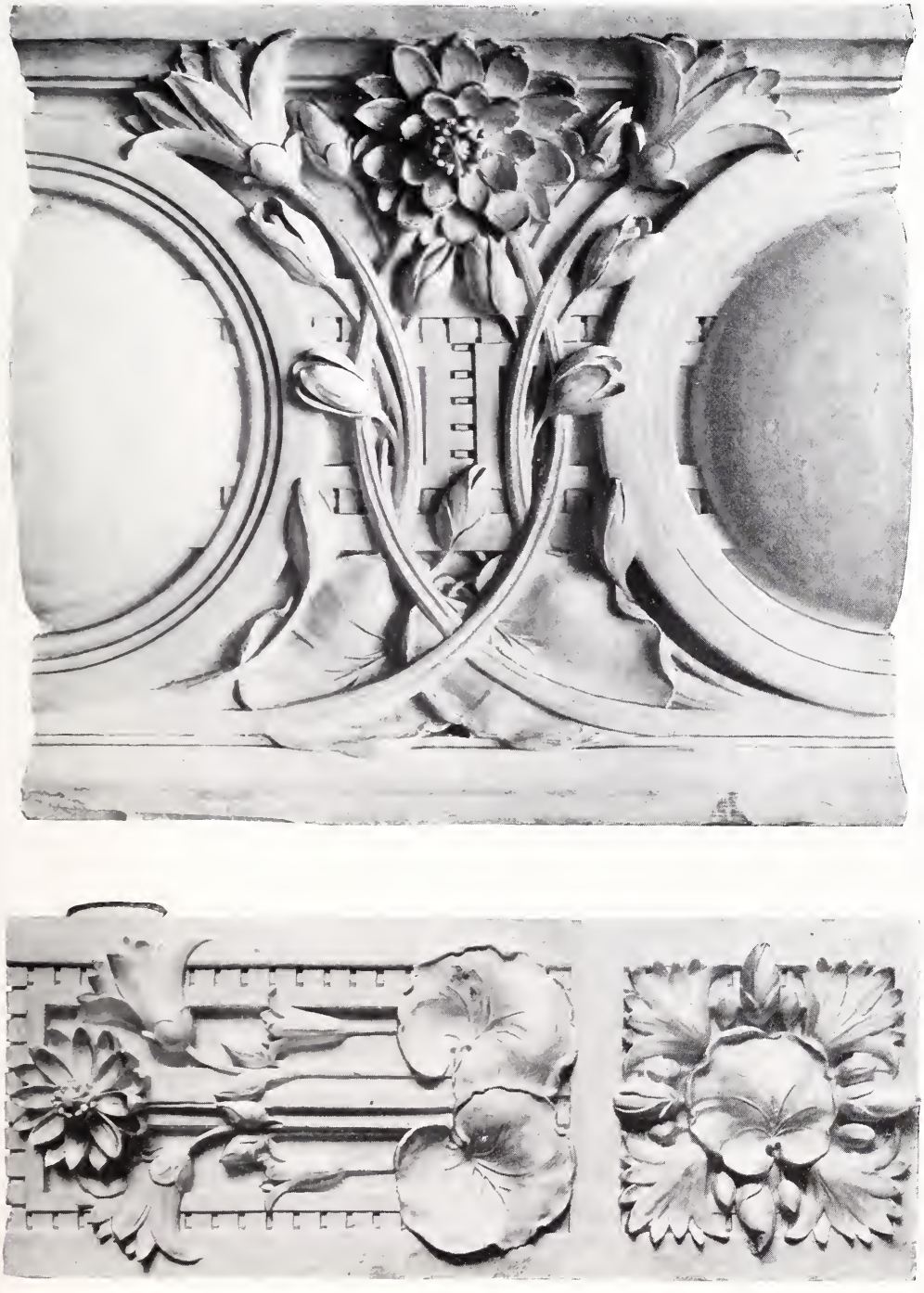
EMPLOYEES' ENTRANCE—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN. GEORGE W. MAHER, ARCHITECT.



MAIN ENTRANCE, UNDER PORTICO—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN. GEORGE W. MAHER, ARCHITECT.



CORNER OF PUBLIC LOBBY, SHOWING CEILING ORNAMENTATION. ALL ELECTRIC LIGHTS ARE CONCEALED IN COVES BACK OF THE CORNICE PROJECTIONS.



CEILING ORNAMENT IN PUBLIC LOBBY. AMERICAN LOTUS CONVENTIONALIZED—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN.
George W. Maher, Architect.



PUBLIC LOBBY, LOOKING TOWARD COMMERCIAL DEPARTMENT—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN. GEORGE W. MAHER, ARCHITECT.



ENTRANCE TO MAIN STAIRS FROM LOBBY—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN. GEORGE W. MAHER, ARCHITECT.

"One of the architectural features of the exterior is the main cornice treatment, which extends in a simple and direct manner entirely around the building, thus binding the various architectural effects harmoniously together. The under side of this cornice is panelled and enriched. The secondary horizontal treatment of wall surfaces above the main cornice indicates the interior housing of the institutional features of the bank on the second floor."

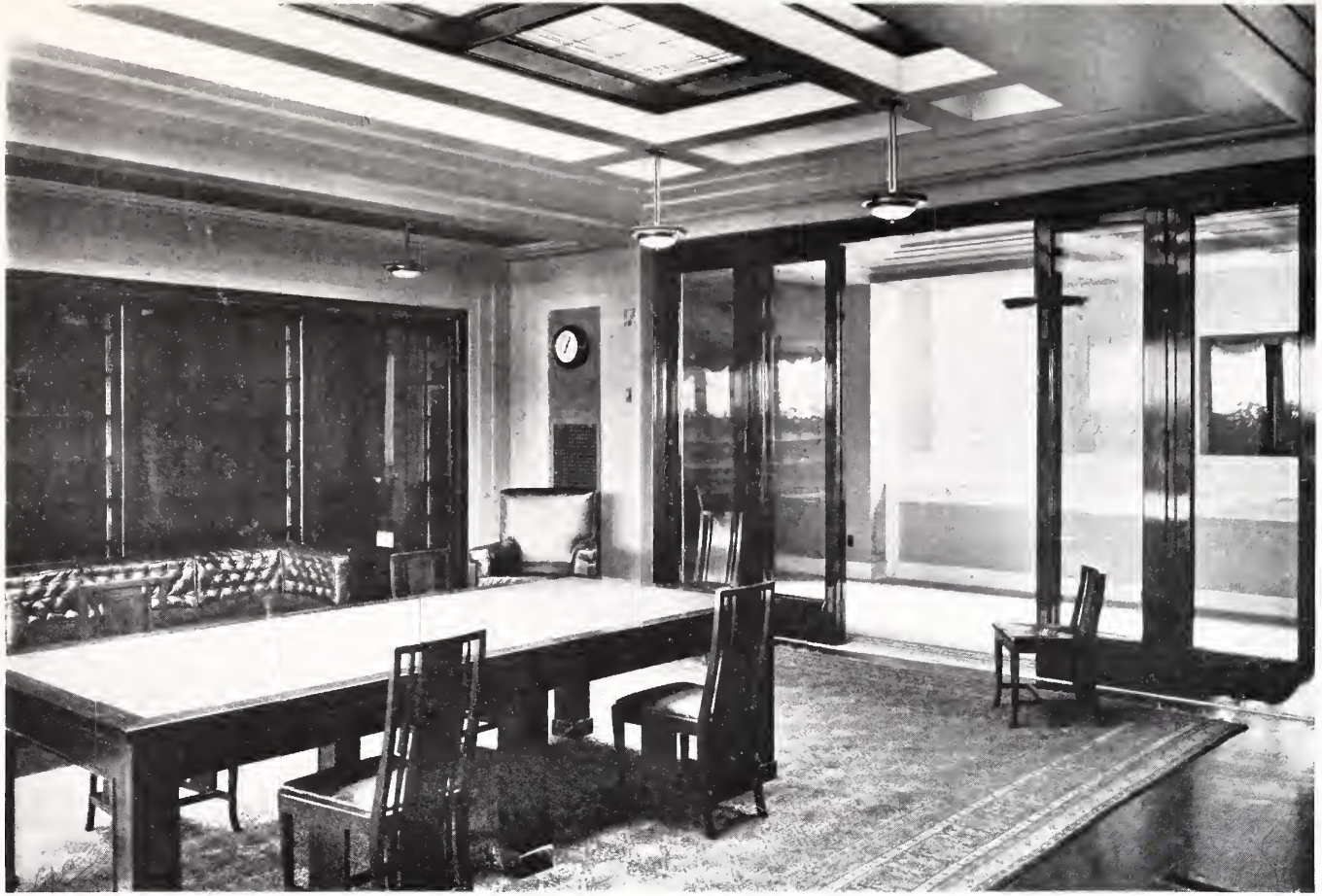
As one enters the building the general arrangement is unfolded immediately. The great steel vault is opposite the main entrance, and stands isolated in a large niche or recessed room especially planned and large enough to allow space entirely around the sides, back and top of the vault. The public lobby forms the architectural and decorative key to the interior. The beautifully modeled ceiling rises fifty feet above the marble floor. The lobby is abundantly lighted through an art glass ceiling, as well as from the large stained glass window underneath the open front entrance portico. This window forms one of the striking features of both the interior and the exterior design, since the lotus flower and leaf motif, already mentioned, are woven in a subtle manner in the beautiful glass work, both in the drawing and in the color.

The decorative scheme of the interior is simple and quiet. The American lotus flower and leaf theme is employed on the wall surfaces and again in the modeling of the ceiling ornament. The sides of the public lobby are lined with broad bands of white Italian English-veined marble, extending from the floor to the ceiling. The marble is so designed and arranged in panels that the beauty of the polished surfaces is at once apparent. The wainscoting extending around the bank floor is of imported Alps green marble. The floors throughout are of marble of a white effect. The various floors, including the mezzanine floor and balconies, are arranged around this public lobby so that the spectator can view the richness of the design of the lobby from different convenient levels.

The workings of the banks below can also be seen from these levels and balconies, thus giving the spectator an insight into the practical operations of a bank. On one side is the Winona Savings Bank and on the other the Winona National Bank. These are equipped with all methods for efficiency in banking. The various departments of both banks are abundantly lighted by large window spaces extending entirely around the three sides of each room. The window surfaces are filled with polished plate glass combined with stained glass and are placed above the level of the clerks' heads and back of them, thus obtaining the best and most practical method of day lighting. The electric lighting is especially designed for practical purposes and also for illumination. Indirect or reflected lighting fixtures are concealed back of screens or modeled ceiling projections, in order to avoid glare to the eye.

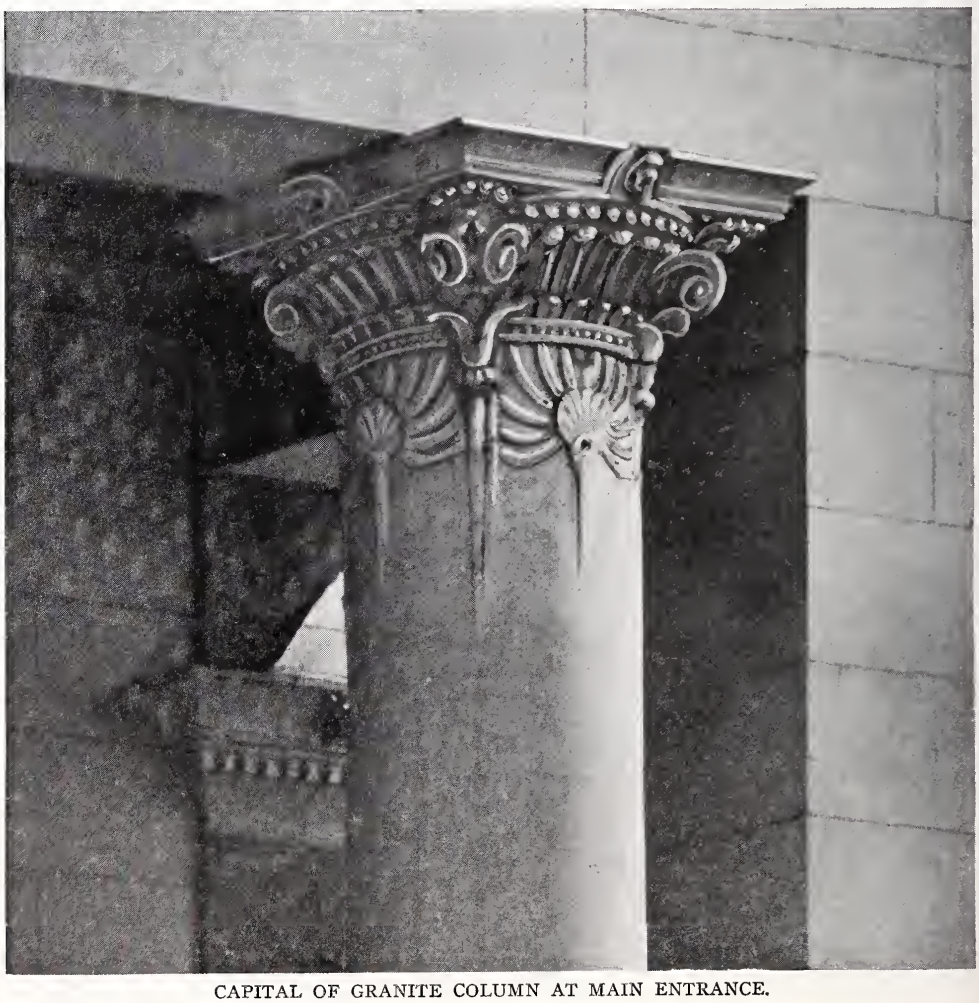
The institutional departments on the second floor, one for men and the other for women, are reached by two spacious marble stairways. The institutional departments are intended to make this bank an educational contribution to progressive banking. The institutional rooms are provided with every facility to accommodate the patrons and the general public. The rooms have tables and easy chairs, stationery, and every convenience that is found in fully equipped club rooms. Wash rooms and rest rooms are conveniently arranged off the men's and women's institutional rooms, for the use of the bank patrons and the public. Between these two rooms, on the second floor, and also overlooking the public lobby, is a large exhibition room that will be available for many different purposes as it may be needed.

The State of Minnesota is becoming famous for its new banks showing progressive tendencies in architectural design. They are to be found in the smaller cities, especially those where the support comes mainly from the surrounding rural districts. They have proved attractive to visitors, who have recognized in them works of art as well as of utility; they have therefore exerted an educational influence in communities heretofore indifferent to architecture because of conventional and prosaic design.



MEN'S ROOM, ON SECOND FLOOR—WINONA SAVINGS BANK AND WINONA NATIONAL BANK, WINONA, MINN. GEORGE W. MAHER, ARCHITECT.

It requires courage to introduce anything that can be regarded as an innovation, but when the innovation meets with acceptance by an intelligent community, it becomes thereby a part of its daily life, which the architect has interpreted in language which he only can speak. From all available accounts this building has been accepted by the people of Winona.



CAPITAL OF GRANITE COLUMN AT MAIN ENTRANCE.

RECENT DEVELOPMENTS IN THE THEORY OF VENTILATION





By

Charles L. Hubbard

THE term, recent, as used above, has a somewhat broader meaning than is usually given to it, as the developments referred to had their beginning some ten or twelve years ago. However, it is only within the past three years or so that a general discussion of the matter has appeared to any extent in the technical journals, and at the present time investigations are still being carried on to reduce these theories to a practical working basis. While considerable matter along this line has beeen published, it has appeared to any extent in the technivarious heating, medical, and school journals, and has usually taken the form of a radical presentation by the adherents of either the *natural* or *artificial* system according to their personal belief.

It is proposed in the present article to review the matter in a simple manner, giving what seems to be the general opinion of a majority of those who have made a special study of the subject and who should be able to give reliable information to those interested. As these new developments, when finally worked out, are likely to call for more or less change in building construction, as regards the ventilating arrangements, it would seem that the matter should have an especial interest for the architect.

Air has two principal functions: a chemical and a physical; it aerates the blood and absorbs the body heat. In order to perform the first of these it must contain a sufficient amount of oxygen and a minimum of harmful gases. Absorption of bodily heat depends upon the temperature, humidity and motion of the air. If the air of a room is not renewed its oxygen is gradually consumed and it becomes laden with heat and moisture from the bodies of the occupants.

Until within a comparatively short time all efforts toward better ventilation have been directed to chemical improvement instead of physical.

The theory upon which all systems of ventilation were formerly designed was that the percentage of oxygen must be maintained as nearly as possible to correspond with that of outside country air and that the proportion of carbon dioxide, or carbon acid gas, must be kept below a certain maximum. The method employed for obtaining this condition was that of dilution or the supplying of large volumes of fresh air at the room temperature or higher, depending upon the system of heating employed. Normal outside air contains approximately 21 per cent of oxygen and from 3 to 5 parts of carbon dioxide in 10,000 parts of air. It has been assumed, arbitrarily, that the carbon dioxide should not be allowed to rise above 10 parts in 10,000, and for the best results 6 to 7 parts have been considered the limit.

The harmful results of an insufficient air supply were supposed to come principally from the poisonous effects of the carbon dioxide coupled with the corresponding diminution of oxygen. Later it was thought the effect of poor ventilation was due, not only to the presence of carbon dioxide, but to certain harmful gases and organisms which were given off in the process of respiration. As these substances were suposed to exist in a fixed proportion to the carbon dioxide, the latter was still consdered to indicate the quality of the air, although in itself it was thought to be less harmful, especially in small quantities.

The common allowance of 30 cubic feet of air per occupant per hour is based on an increase of carbon dioxide from 4 parts in 10,000 of air to slightly less than 7 parts. A maximum of 6

parts in 10,000 calls for a supply of 50 cubic feet per minute under the same conditions. As already stated, the sole object of ventilation was one of dilution, so as to keep the carbon dioxide content and its accompanying products of respiration below a certain percentage. While this has been the accepted theory of the heating engineer and the general public until a comparatively recent date, there has been some doubt among those engaged in laboratory research as to the importance of the chemical purity of the air to the exclusion of its physical characteristics, and it was only with the advent of the air washer that we began to learn of the advantages of air "conditioning."

The perfection of the air washer was the outgrowth of the demand for a filter which would be more effective and more nearly automatic in its action than the older forms of dry filter, which were extremely bulky when made of the proper proportions and required frequent removal for cleaning in order to limit the resistance to air flow. While the primary use of the air washer was for the removal of dust and soot from city air, its field was soon extended to air moistening, cooling, and the removal of some of the products of respiration.

Although most of the ventilating systems at the present time are designed along the same general lines as in the past (with the exception of air washing in large city buildings), the *theory* of ventilation, as accepted by many of the leading authorities at home and abroad, has radically changed, the idea being that the physical characteristics of the air we breathe are of much greater importance than chemical purity.

While there are still some who give considerable importance to the chemical theory, a majority of those who have made an exhaustive study of the matter seem to have discarded the older theory and recommend that future development in the design of ventilating equipment be along the line of improvement in temperature and humidity control and in air movement.

Briefly stated, the chemical composition of the air, as regards contamination through respiration under ordinary conditions, is negligible, as compared with the removal of bodily heat and moisture. It will be interesting at this point, before considering the physical effects of air, to examine briefly into the reasons for this change in theory in regard to the chemical characteristics, as related to bodily health and comfort.

In order to show the relative importance of changes in the percentage of oxygen and carbon dioxide in the air for breathing, it is necessary to have a clear understanding of the process of respiration and the changes which take place in the air within the passages of the respiratory tract. At the beginning, it should be clearly understood that the lungs are never filled with *pure* air, even under the most favorable conditions, because breathing is only a frequently repeated slight dilution of the air remaining in the throat and larger bronchial tubes after expiration.

So far as its chemical composition is concerned, this is air which has passed out of the lungs, and after being mixed with a certain proportion of outside air, during the next breath, is again drawn into the lungs as a mixture which does not even remotely approach chemically pure air. This results in making respiration a continuous instead of an intermittent process, and so provides for a constant supply of oxygen which is necessary to the life of the tissues.

Thus we see that any changes in the proportion of oxygen and carbon dioxide, which are likely to occur in the air of a poorly ventilated room, will have no appreciable effect upon the air within the lungs.

As previously stated, pure outside air contains about 21 per cent. of oxygen, and this hardly ever falls below 20 per cent. in the poorest ventilated room. As the air in the lungs contains but 16 per cent. under normal conditions, it is evident that any changes which may take place in the oxygen content of the surrounding air will have but slight effect internally. Furthermore, the supply of oxygen in the lungs is not dependent upon the outside conditions, but is regulated by the amount of carbon dioxide

dissolved in the blood, and this, in turn, acts upon certain nerve centers which control the depth and rate of breathing. If the carbon dioxide falls too low, stimulation of the nerve centers ceases, and the process of respiration does not take place until the proper proportion has again been accumulated. The normal proportion of carbon dioxide in the air of the lungs is about 5 per cent., and is kept at this point automatically by the action of respiration. Under these conditions the only effect of breathing in an excess of this gas with the surrounding air is an unnoticeable increase in the action of the lungs through faster and deeper breathing.

Thus we see that the amount of carbon dioxide remaining in the blood depends entirely upon internal conditions rather than external, and is entirely automatic in its action—the rate of ventilation of the lungs being the means by which a proper balance is maintained between the oxygen and carbon dioxide.

It is also evident that our chief safeguard against a want of oxygen by the body tissues is a definite accumulation of carbon dioxide, and this is maintained by rebreathing the "dead-space" air, so called, contained in the throat and larger bronchial tubes.

Besides the necessary reinspiration of the dead-space air, it is also known that one usually takes in again a part of the breath entirely expelled from the body during the preceding expiration. When standing alone in a room a person will rebreathe from 1 to 2 per cent. of the air he has just exhaled. When lying in bed he will rebreathe from 2 to 6 per cent. or more, depending upon his position, and even in the open, if there is a shield to break the wind, a small proportion is taken back with nearly every breath.

While the above seems to prove the fallacy of the older method of reasoning, it is interesting to note the results of certain experiments which have been carried out from time to time. Although a large amount of investigation has been done in this direction, space allows the mention of only a few results.

As far back as 1842 Leblanc found that an animal could survive exposure to atmosphere containing 30 per cent. of carbon dioxide, provided the proportion of oxygen was 70 per cent., and recover quickly from the depression produced by this mixture.

Pettenkofer, in 1849, demonstrated that the symptoms produced in crowded places were due neither to an excess of carbon dioxide nor a deficiency of oxygen. He also found that air containing 1 per cent. (100 parts in 10,000) of carbon dioxide could be breathed for hours without discomfort, and laid down the doctrine, accepted by sanitarians, that the percentage of carbon dioxide was only a guide to the other harmful properties contained in the atmosphere.

Later tests in an English brewery, where carbonic acid gas was compressed and bottled, showed the air of the workroom to contain from 0.14 to 0.93 per cent. of this gas (14 to 93 parts in 10,000). Work was carried on continuously in 12-hour shifts, the men having their meals in the room. Some, it is stated, had followed this employment for eighteen years without detriment to health.

Other experiments have shown that the air may contain from 3 to 4 per cent. (300 to 400 parts in 10,000) of carbon dioxide before increased respiration will be noticed by an individual at rest, but percentages over 1 per cent. (100 parts in 10,000) diminish the power to do muscular work.

The widespread belief in the presence of organic poisons in the expired air is mainly based on the statements of Brown-Séquard and D'Arsonval, and it has been assumed by sanitarians that the carbon dioxide must be kept below 10 parts in 10,000 of air to prevent harmful results from this condition, the percentage of carbon dioxide being taken as an index of their amount.

The evil smell of crowded rooms has long been accepted as proof of the existence of such poisons. As a matter of fact, such odors come from secretions of the skin; from food eaten, such as onions and garlic; decayed teeth; the bad breath of dyspepsia; soiled clothes, etc., etc. While such a mixture of odors is offensive and disgusting, it has been

proved to be harmless, so far as its direct effect upon health is concerned.

The theory of Brown-Séquard and D'Arsonval was based on three series of tests, as follows: In the first case, water with which they had repeatedly washed out the air tubes of a dog, was injected into the blood-vessels of a rabbit. In the second, they injected the water condensed from the exhaled breath of a man; and in the third, the water condensed from the breath of a dog. The principal symptoms recorded were dilation of the pupil, acceleration of the heart, and paralysis of the lower limbs. The larger doses caused, as a rule, labored breathing, retching and contracted pupils.

Extensive investigations carried out along this same line more recently have proved this theory at fault and seem to show that the results were due to the injection of comparatively large quantities of water, or to its containing infectious bacteria, rather than to any harmful organic matter.

For example, an experiment was arranged where the breath of one dog was exhaled directly into the lungs of another continuously for nearly seven hours without harmful results.

In other cases the exhaled breath of human beings was condensed, then dried, sterilized, mixed with distilled water, and injected beneath the skin of rabbits and mice. Here, as before, no sign of disturbance was shown. In comparison with this, both rabbits and a puppy were killed by injecting sufficient quantities of pure distilled water.

A considerable portion of the above data has been obtained from the Smithsonian Miscellaneous Collections, Volume 60, No. 23, which gives a large number of other tests along similar lines.

Having shown, in a general way, the course of reasoning followed in discrediting the older theory of ventilation, let us now see what has been advanced to take its place.

More than thirty years ago Hermans suggested that the results of poor ventilation might be due, in some way, to heat rather than the chemical condition of the air, and recent investigations have been carried out along this line.

Experiments show that an ordinary adult will produce, and must be relieved of, sufficient heat in the course of an hour to raise the temperature of 1,000 cubic feet of air 15 or 20 degrees. In addition to this, a considerable amount of moisture is given off, partly by perspiration and partly as vapor in the air exhaled from the lungs.

Unless this heat and moisture are promptly removed the body becomes surrounded by an envelope of stagnant air, having the same effect as an oppressive day in the summer, with a high temperature and excessive humidity.

The remedy for this condition is evidently suitable temperature and humidity regulation and air movement, which combination forms the basis of design for the latest systems of ventilation.

The physiological effect upon the human body of overheating is a derangement of the vaso motor system, that is, the nerves which regulate the circulation through the blood-vessels, other than the action of the heart. For example, a cool wind striking the skin, stimulates, through the sensory nerves, the vaso motor constrictors, which causes the small vessels near the surface to contract and drives the blood deeper in the tissues and so preserves the bodily heat. A warm wind, or other source of external heat, causes the superficial vessels to dilate and draws the blood to the surface, thus cooling it more rapidly and maintaining the normal bodily temperature. Health, and life itself, depend upon a uniform temperature of the blood, the usual sunstroke or heat prostration being the result of a very slight rise in temperature. When the heat regulating functions of the body are interfered with by an envelope of still air, at a high degree of temperature and humidity, the usual discomforts of a sultry day or a badly ventilated room are experienced.

Briefly stated, living beings constantly produce and give off to their surroundings an excess of bodily heat. This heat must be disposed of, and is constantly carried away from the body, partly in the air exhaled from the lungs, but

chiefly through the skin by radiation and conduction assisted by the evaporation of perspiration. It is evident that the prompt removal of this heat will depend upon a surrounding atmosphere neither too hot nor too moist, and furthermore, that the process will be hastened if the air is in motion.

Either too high a temperature or too much moisture in the air will retard the cooling of the body, and when these two conditions occur at the same time, as is usually the case in a poorly ventilated room, the result is doubly harmful.

According to this conception, the problem of ventilation is one of physics and not of chemistry. It seems strange that although more than thirty years have elapsed since this doctrine was first advanced, so little has been known of it outside of laboratories, and that the theory of an excess of carbon dioxide and a mysterious organic poison has prevailed so persistently until the present time.

An interesting coincidence which may be mentioned at this point is, that the usual allowance of 30 cubic feet of air per occupant per minute, based on the amount of dilution to maintain a certain standard of chemical purity, is also the amount of air which is required to remove the heat and moisture given off by one person when introducing it into the room at a temperature 10 degrees less than the room temperature, which is about as low as is possible without causing drafts or chilling the occupants.

This fact is not only of general interest, but serves to show that our modern ventilating systems, while designed upon a wrong assumption, may be made to fulfill the requirements of our later ideas, pending future developments in the way of greater efficiency and effectiveness.

Thus far the new theory of ventilation has been stated as a fact without giving any of the reasons leading up to its adoption.

Investigations in this direction have been under way for a number of years and are quite fully reported in the publication of the Smithsonian Institution previously referred to. Only a few of the simpler experiments will be mentioned in the present article.

In a series of tests at the Institute of Hygiene in Breslau, and reported in 1905, normal individuals were placed in a cabinet of about 80 cubic feet capacity and confined for periods up to five hours until the carbon dioxide rose to 100 to 150 parts in 10,000. No symptoms of illness or discomfort were felt, and the chemical impurity of the air had no effect upon the mental activity of the occupant so long as the temperature and humidity of the air were kept moderately low. Raising the temperature to 75 degrees and the humidity to 89 per cent., with the carbon dioxide at 120 parts in 10,000, caused much discomfort. Breathing outside air through a tube gave no relief under these conditions, while breathing air from the cabinet by those outside caused no discomfort.

Circulating the air within the cabinet, by means of a fan, without changes in temperature, humidity, or chemical composition, removed the disagreeable symptoms experienced by the occupants. When the chamber was cooled to 62 degrees there were no feelings of discomfort, although the carbon dioxide rose to 160 parts in 10,000.

Experiments reported in Bulletin 175, U. S. Dept. Agriculture, page 235, show that a man can live many days in a closed calorimeter chamber in comfort, without damage to his health, and having not the slightest knowledge of any defect in ventilation when the carbon dioxide rises to 100 to 200 parts in 10,000, so long as the air in the chamber is kept cool and dry.

Recent investigations have also been carried out along a similar line in the Physiological Laboratory of the London Hospital Medical College with practically the same results.

In this case the chamber was of wood made air tight with suitable insulation, and equipped with an electric heater, a coil through which cold water could be circulated, humidifying apparatus, and two electric fans for circulating the air within the chamber. Without going into details, the results showed that decreased oxygen and an increase in carbon dioxide

up to 200 to 500 parts in 10,000 had little effect upon the pulse, while the temperature and humidity had a profound effect. The feelings of discomfort which were produced depended upon the excessive heat and humidity and were relieved by cooling and stirring the air by means of the water coil and fans. The carbon dioxide could be suddenly raised to 200 parts in 10,000 without the occupants becoming aware of it. Those outside the chamber could breathe air from within, through a tube, without experiencing any of the discomfort felt by those inside when the temperature and humidity were high, while the breathing of outside air by those within the chamber brought no relief.

A series of tests carried out some time ago by the Chicago Commission of Ventilation seemed to show that there was a temperature and humidity range within which the occupants of a room were comfortable, and this range has given rise to what is called the "comfort zone." This means that there is a maximum temperature with a minimum relative humidity, and a minimum temperature with a corresponding maximum relative humidity, between the limits of which the occupants of a room are comfortable. In other words, there seems to be no *best* temperature or *best* relative humidity; but the maximum temperature at which one is comfortable will be associated with a minimum relative humidity and the minimum temperature for comfort will have associated with it a maximum relative humidity.

Under the conditions of the tests made, it was found that a temperature of 64 to 70 degrees with a corresponding relative humidity of 55 to 30 per cent. seemed to be the limit; that is, the comfort zone was between 64 degrees with 55 per cent. humidity, and 70 degrees with 30 per cent. humidity.

We have heard much recently of the necessity of more humidity in the air we breathe, the atmosphere of our dwellings and public buildings being likened to that of an arid desert.

While a certain amount of moisture adds to our comfort, too much is injurious to health, as shown by the experiments just described. Taken alone, a certain degree of humidity does not signify very much, within certain limits, but must be considered in connection with the existing temperature; the combination being what produces comfort or discomfort. It is probably safe to say, where no special provision is made for humidity control, that during the winter our dwellings are too dry and our audience halls and theatres too moist. This is due to the proportion of cubic space per occupant, being large in the former and small in the latter case.

While much has been said of the harmfulness of too dry an atmosphere and its effect upon the mucous membrane of the respiratory passages, there seems to be some reason to doubt that lack of moisture, within practical limits, has any particular effect in this direction.

The membranes of the throat and nose are kept moist by the secretions from certain glands provided for this purpose and not by the moisture in the air which we inhale. Of course the dryer the air the greater will be the tax upon these glands, but the surfaces themselves will remain moist so long as the function of the glands is not overtaxed. It seems more likely that the sensation of smarting in the throat and nose, which is often experienced in a dry atmosphere, is due to dust rather than a low degree of humidity.

While dry air does not necessarily contain more dust than moist air, a low humidity tends to extract moisture from the floors, furniture, and other objects and thus liberates a certain amount of dust which is readily picked up by the moving air. It is probable that one of the most important beneficial effects of outdoor sleeping is breathing a comparatively dust free air. The relative humidity is higher at night and the amount of dust in the air consequently low.

The most extensive investigations in both theoretical and practical ventilation are being carried out in this country by the Chicago Commission on Ventilation and the New York State Commission on Ventilation.

The former was organized in February, 1910, and has done a large amount

of practical work along the line of ventilation as related to schools, churches, theatres, industrial buildings of various kinds, and street cars. The work is carried on partly in laboratories, especially equipped for this purpose, and partly in buildings in actual operation, where tests are conducted under practical working conditions.

The New York Commission was organized in June, 1913, and began its actual work in December of the same year.

The phases of the problem which have been given special study may be classified as follows:

Chemistry of the Air—Oxygen, carbon dioxide, organic matter, odors, ozone.

Air Conditioning—Temperature, humidity, dust.

Mechanics of Ventilation—Air volume, air movement, heating of air, cooling, recirculation, natural and artificial ventilation.

Efficiency of installation and operation. Ventilating apparatus.

The laboratory is equipped with a ventilation chamber having a capacity of 1,150 cubic feet, which is provided with apparatus by which the air of the chamber may be confined and rebreathed, or renewed at any desired rate, may be maintained at any desired temperature and humidity, may be kept quiet or in motion, may be removed, washed and recirculated, and may be given any desired chemical composition.

In this chamber from one to six persons may be confined for any length of time. On certain days they may engage in definite mental tasks, while on other days they perform a definite amount of physical work under a given combination of air conditions. By the quantitative study of a considerable number of bodily functions, such as temperature, sensitiveness of the skin, blood-pressure and pulse rate, respiratory exchange, the production of heat, duration of digestion, various changes in the urine, etc., an endeavor is being made to learn in what respects, if any, the physical and mental efficiency are altered by changes in air conditions.

In addition to laboratory investigations, outside work is being carried on under the direction of members of the laboratory staff.

Both the Chicago and New York Commissions have been very conservative in giving out conclusions, it being the policy of those in charge to thoroughly investigate the various problems from all sides before making any definite recommendations.

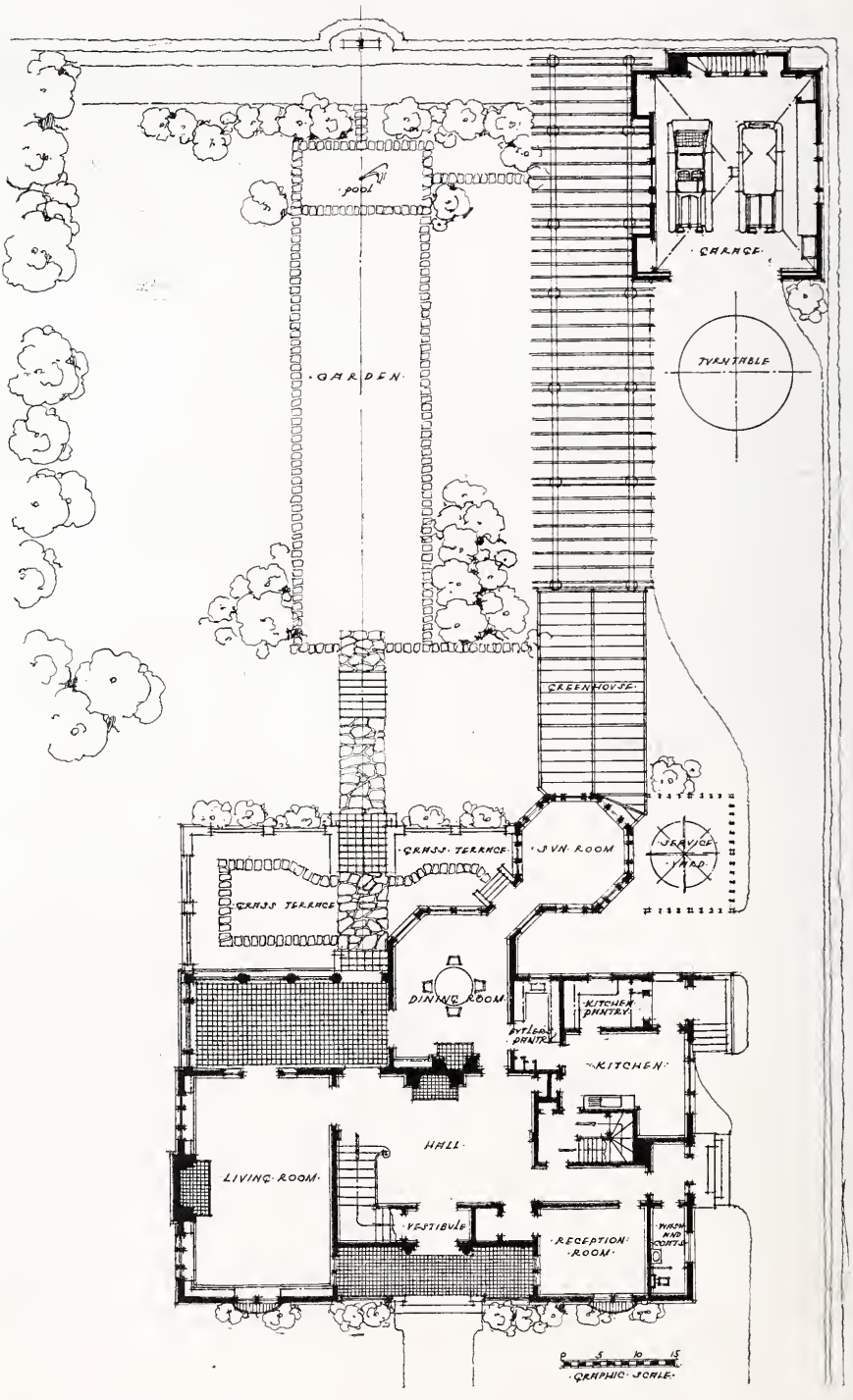


ALTERATION FOR BUTTERFIELD HOUSE, AMHERST, MASS. JAMES M. RITCHIE, ARCHITECT.

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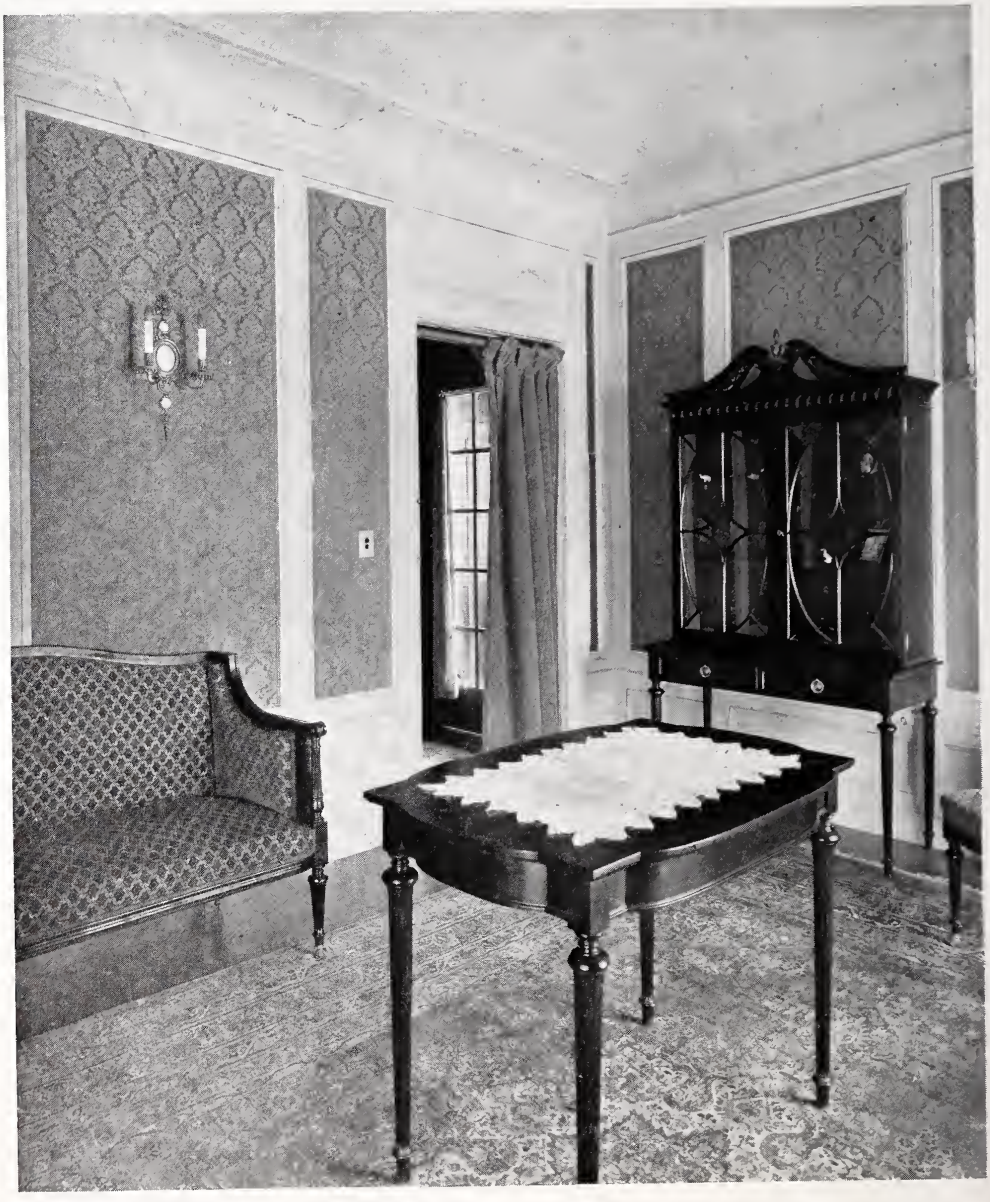
ALTERATION FOR BUTTERFIELD HOUSE, AMHERST, MASS. JAMES M. RITCHIE, ARCHITECT.



HOUSE AT SWAMPSCOTT, MASS.
JAMES M. RITCHIE, ARCHITECT.



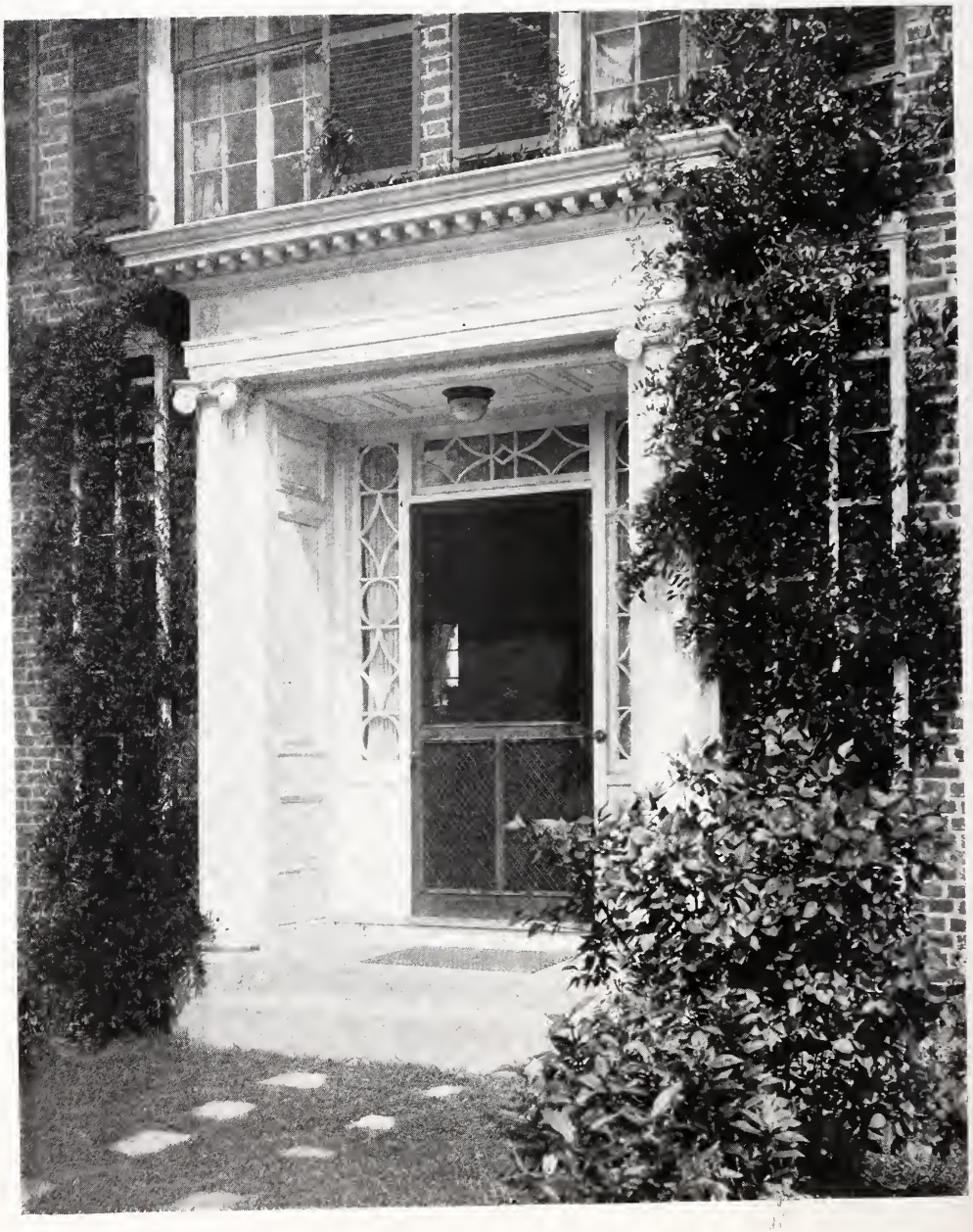
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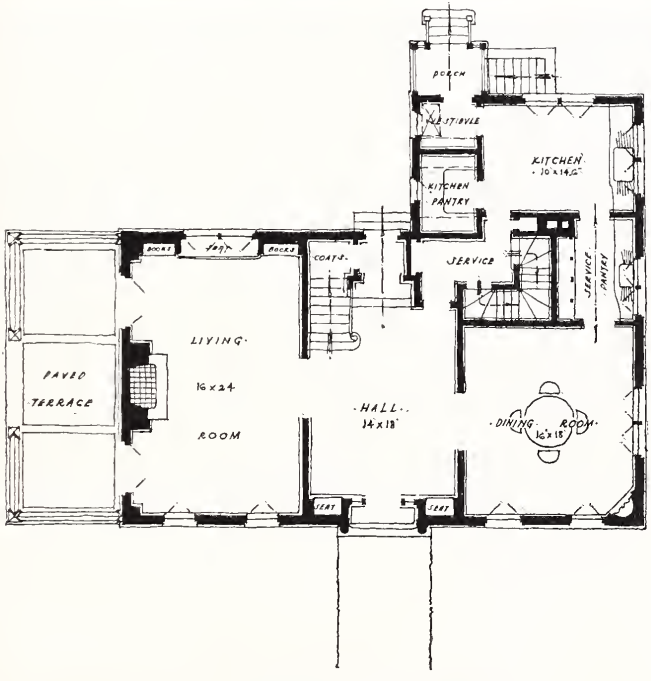
HOUSE AT SWAMPSCOTT, MASS.
JAMES M. RITCHIE, ARCHITECT.



HOUSE AT PHILLIPS BEACH, MASS.
JAMES M. RITCHIE, ARCHITECT.



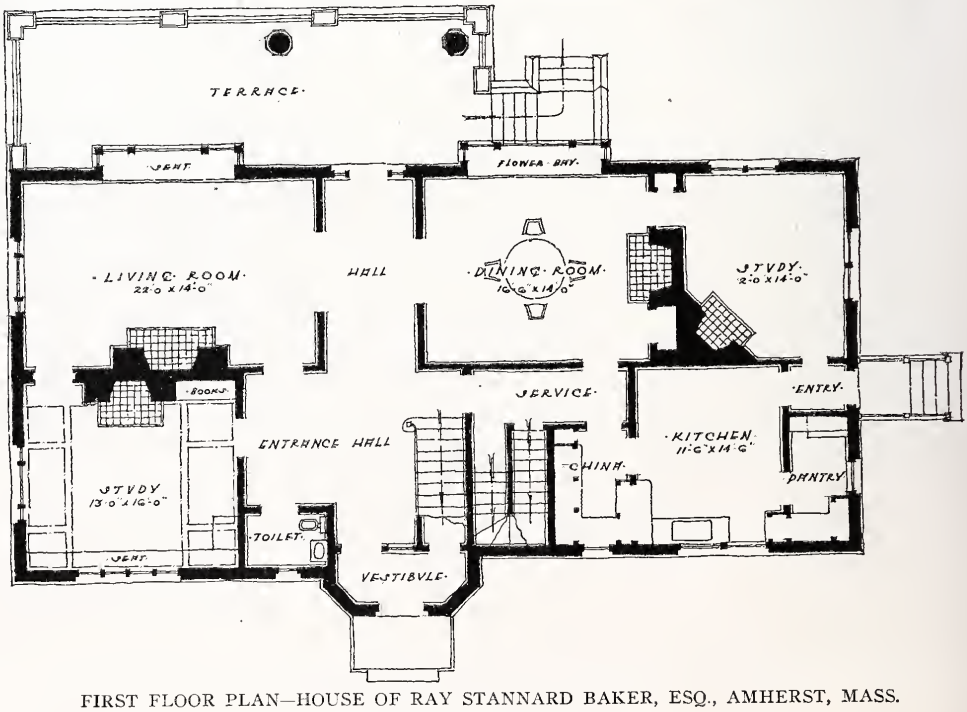
HOUSE AT PHILLIPS BEACH, MASS.
James M. Ritchie, Architect.



HOUSE AT PHILLIPS BEACH, MASS.
James M. Ritchie, Architect.



HOUSE OF RAY STANNARD BAKER, ESQ., AMHERST, MASS.
James M. Ritchie, Architect.



FIRST FLOOR PLAN—HOUSE OF RAY STANNARD BAKER, ESQ., AMHERST, MASS.
James M. Ritchie, Architect.



DETAIL OF ENTRANCE FRONT—HOUSE OF RAY STANNARD BAKER, ESQ., AMHERST, MASS. JAMES M. RITCHIE, ARCHITECT.



CHURCH OF THE ASCENSION (EPISCOPAL),
PUEBLO, COLO. WETHERELL & GAGE, ARCHITECTS.



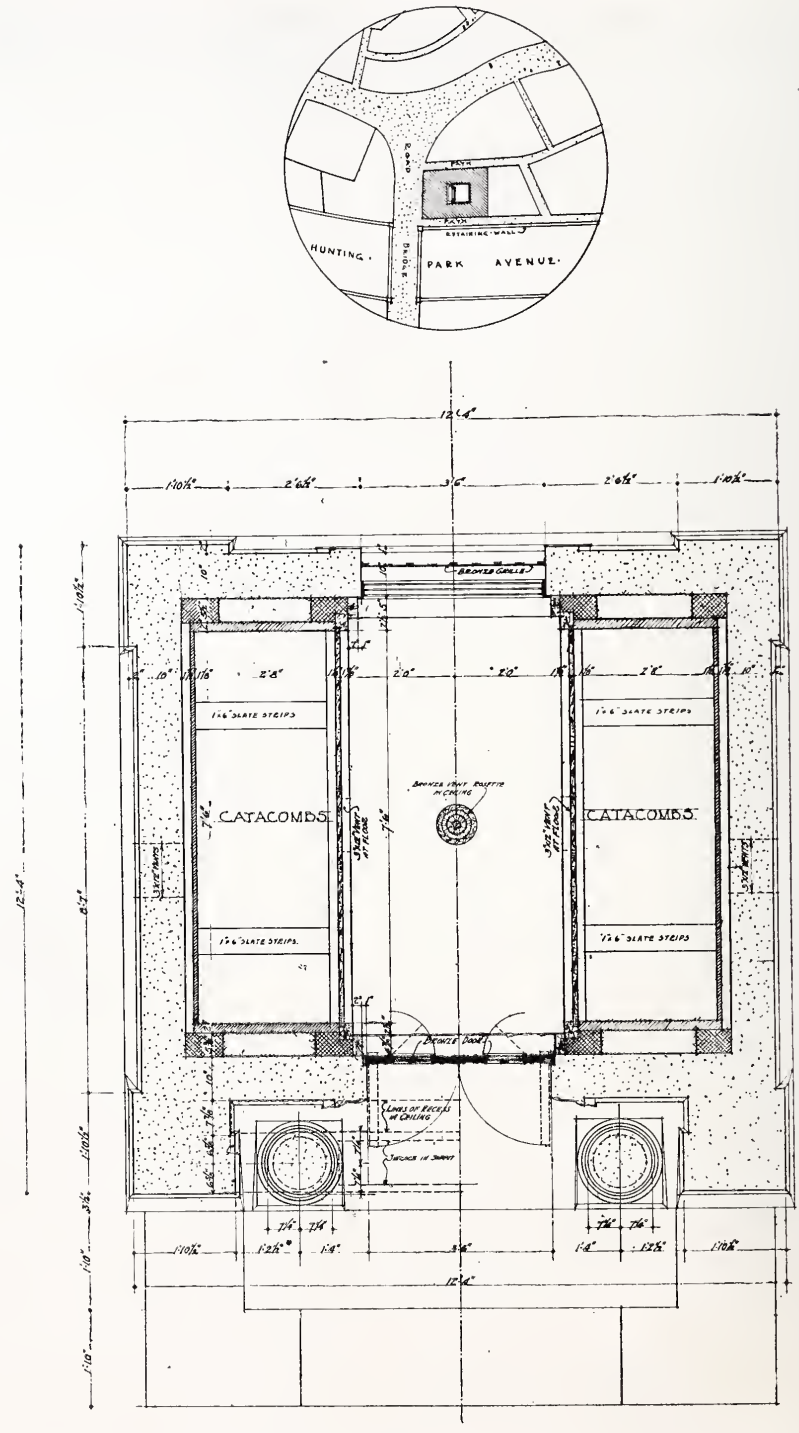
CHURCH OF THE ASCENSION (EPISCOPAL), PUEBLO, COLO. WETHERELL & GAGE, ARCHITECTS.



THE ELKS CLUB OF TACOMA, WASH.
E. FRERE CHAMPNEY, ARCHITECT.



THE ELKS CLUB OF TACOMA, WASH.
E. FRERE CHAMPNEY, ARCHITECT.



FLOOR PLAN AND LOCATION PLAN—WEBB MAUSOLEUM, LAUREL HILL CEMETERY, PHILADELPHIA. GILLESPIE & CARREL, ARCHITECTS.



WEBB MAUSOLEUM, LAUREL HILL CEMETERY, PHILADELPHIA. GILLESPIE & CARREL, ARCHITECTS.



OWN HOUSE, AT CONCORD, MASS.
HARRY B. LITTLE, ARCHITECT.



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HARRY B. LITTLE, ARCHITECT.



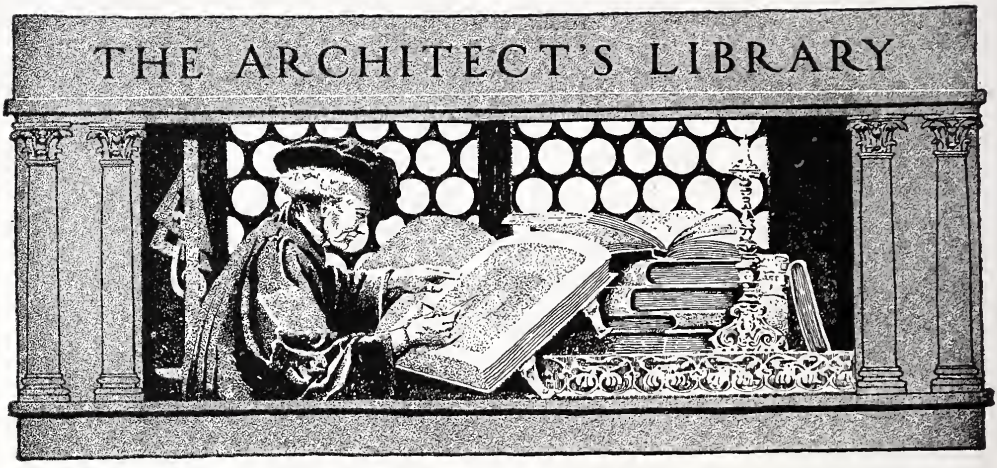
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OWN HOUSE AT ANN ARBOR, MICH.
Samuel McC. Stanton, Architect.



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BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

Part IV.—The Minor Arts

ALTHOUGH a constantly increasing interest attaches to Colonial work in the minor arts, writers have hitherto seen fit to consider this important domain of architectural accessories chiefly within the limited compass of articles in periodicals. Of the latter, several seem to carry practically a regularly reserved number of pages to accommodate the necessary quantum of Colonial matter that public interest apparently demands. In fact, it may be said that the field has been to a great extent overworked in the case of a number of popular and non-technical periodicals which maintain a strong architectural interest, but offer too frequently material of inadequate substance and authority in the Colonial as well as other building styles. It is hoped that the near future will witness extended research and far-reaching study concerning the varied minor arts of our early time, and the gathering of available material into carefully produced and profusely illustrated volumes. There are needed, for instance, more extensive collections of measured drawings of furniture and of architectural metal work; likewise more extended studies of hangings and other textiles, and, incidentally, of early wall papers. The other minor arts, such as silver and other metal objects, clocks, glassware and the like, have already received, for the present at least, ample attention, with the exception, perhaps, of pottery of various kinds, a field yet to be more fully edited.

We are glad to note the existence of one inclusive volume on the minor arts in our formative time, namely, that by Walter A. Dyer, entitled *Early American Craftsmen* (New York; The Century Company; 1915. Octavo, pp. XII + 387, ill. $2.40), a work carefully written and presenting in very readable form a number of phases of Colonial craftsmanship. This comprises a series of sketches of the lives of the more important personalities in the early development of the industrial arts, offered in connection with many illustrations in all the crafts treated and maintaining throughout a generous care for the guidance of the collector of Americana. Mr. Dyer deserves full credit for undertaking the first general work in the more limited field of the lesser crafts; as

has been noted, much has yet to be written along these lines before Colonial art shall have in this respect received its due, but the present volume makes a highly praiseworthy beginning.

The initial study concerns Samuel McIntire, the master carpenter of Salem, and beyond question our earliest master craftsman in any province of art. This imposing figure belongs in that category of craftsmen who combine in themselves the more distinct professions of architect, contractor, builder, decorator and manufacturing artisan, and all this without suggestion of the inadequacy of a jack of all trades. His craftsmanship was essentially one of tools and materials; it was a craftsmanship implying a mastery of detailed execution as well as design.

We may agree fully with the present author that the achievements of the men of the stamp of McIntire, "especially as shown in the private houses of New England and the South, constitute our chief claim to a national and indigenous school of architecture. For although these houses were modeled on the style prevalent at the time all over England, they show the common classical and stereotyped forms used with a justness of proportion, a nicety of detail, and a refinement and grace which distinguished them from all other buildings of the period."

Perhaps no single locality gathers together so many threads of unique craftsmanship as does that ancient town of Massachusetts which was the sphere of activity of Samuel McIntire. Salemites seem to have been blessed with considerable fortunes due to fishing and trade over seas, and to their credit be it said that they were content to dispose of their incomes at home, achieving in their comfortable homes of wood an elegance and good taste comparable with similar qualities in the best manor houses of the Old Dominion. McIntire profited readily by the building activity made possible through the successful trading of his fellow citizens, and worked out his skill in entire buildings as well as in minutest details. He succeeded notably in doorways and interior woodwork, particularly in mantels, paneling and stairways, and handled all with an ease and breadth of artistic feeling, as well as an understanding of his materials and their essential technique, that are truly remarkable in view of his restricted opportunities. This representative of the finest traditions of personal craftsmanship have latterly been given individual attention in a fine volume by Frank Cousins and Phil Riley, which will be noticed in a later paper.

Mr. Dyer's chapter on McIntire is followed by one on Duncan Phyfe, whose position in American furniture design is to a certain extent comparable to that of Sheraton in the mobiliary art of England. Although there are many hundreds of pieces of Sheraton design and no small number of these are ascribed to him as personal products, the fact remains that Sheraton himself designed and executed but one piece, while, on the other hand, his book of designs formed the basis of scores of objects later manufactured and inaccurately assigned to him as executant.

Duncan Phyfe probably manufactured not more than one hundred pieces of furniture, but to him in similar fashion are assigned many others that should more properly be labeled "after the manner of Duncan Phyfe." This difficulty of attribution really deserves but brief notice, since it is a limitation which in the nature of things must characterize all types of art, because art is so largely the result of schools that follow the dictates of masters; the difficulty must in greater degree characterize any type of product, more especially of craftsmanship, in which later restoration, polishing, painting and the like may obliterate the marks of original designers.

Duncan Phyfe's sphere of influence was centered in New York City; he worked in various manners indicating plainly the vogue of his day, first in the Adam and Sheraton versions from about 1795 to about 1818, then in an Americanized form of the Empire style for about a dozen years following, and finally in the type of aberrations unfortunately so widespread in the years from 1830 to 1847. Unquestionably his best work belongs in the time preceding 1812.

Subsequent chapters of the volume under discussion are concerned with American Windsor chairs, the clock makers of

Connecticut, Eli Terry, Seth Thomas and Silas Hoadley. Then follows a chapter on the Willards and their clocks. Other minor arts are likewise discussed, notably American glassware, and the work of Baron Stiegel, the versatile Paul Revere and other American silversmiths and braziers, likewise the early potters and their work, more especially the fine old pottery of Bennington.

Throughout his volume Mr. Dyer has maintained a uniform quality of good writing and good illustrative material. It is issued not only as a work of information for students of the crafts of our early time, but also as a text book for the collector of Americana. We do not hesitate to say that it has amply fulfilled its mission and to venture the hope that any further editions of the volume may be granted a more dignified format.

Mention should also be made of another volume by Mr. Dyer, preceding that just reviewed by five years in date of publication and entitled *The Lure of the Antique* (Octavo, pp. xii + 499, and 159 photos. New York; The Century Company; 1910. $2.40). This is, according to its title page, a book of ready reference for collectors of old furniture, china, mirrors, candlesticks, silverware, pewter, glassware, copper utensils, clocks and other household furnishings of our American forefathers and purports likewise to act as a handy guide for the determination of age, style, maker and genuineness of individual pieces, probable contemporary values being given in terms of dollars in the illustrations. The volume is an excellent handbook and a very creditable literary performance throughout.

It does not behoove us here to make extended mention of the large number of works that have been issued concerning the various minor arts of our early time; suffice it to say that these volumes have been of uniformly good text quality and generally well illustrated. In passing, however, the following should be especially noted. The metal field has been especially well handled, from an architectural viewpoint, in plates issued in connection with the various collections of plates that have been mentioned from time to time in these pages. Plate and silver work, on the other hand, has received specialized treatment at the hands of excellent authorities, as, for instance, in the fine handbooks published by the Boston Museum of Fine Arts under the titles *American Silver, the Work of the Seventeenth and Eighteenth Century Silversmiths,* exhibited at the Museum of Fine Arts, Boston, June to November, 1906, and edited by R. T. Haines Halsey (Crown octavo; pp. 100, with 29 photographs. Boston; Museum of Fine Arts; 1906), and *American Church Silver of the Seventeenth and Eighteenth Centuries, with a Few Pieces of Domestic Plate,* exhibited at the Museum of Fine Arts, Boston, July to December, 1911, and edited by John Henry Buck (Crown octavo; pp. xxvii + 163, and 38 plates. Boston; Museum of Fine Arts; 1911). Both of these volumes are thorough in execution and in editorial supervision, and their illustrative material alone would warrant their value to the student of things Colonial. Over the name of John Henry Buck, who may be rated as the foremost authority in this field, was also issued *Old Plate, Ecclesiastical, Decorative and Domestic; Its Makers and Marks* (Crown octavo; pp. 327, ill. New York; The Gorham Manufacturing Company; 1903). This volume should be regarded as a standard work and will offer a mine of research in a fascinating type of art. There are numerous text illustrations, line drawings, reproductions of makers' marks and other devices that are valuable for purposes of identification and dating of pieces. In addition to the undoubted quality of its text and illustrations, Mr. Buck's book must be considered a decided success in book making, since it presented in many ways a distinct problem in typography. And finally, due credit must be granted the Gorham Manufacturing Company, which is not in any sense a publishing concern, for its good will in fathering so useful a publication. Of similar character, but treated in much smaller scale, is a volume by George Munson Curtis entitled *Early Silver of Connecticut and Its Makers* (Octavo; pp. 115, and 38 plates. Meriden, Conn.; The International Silver Company; 1913.

$1.25), which is likewise very well written and produced, and is illustrated with excellent plates and line drawings.

Pewter and other alloys have been amply dealt with in Edwards J. Gale's *Pewter and the Amateur Collector* (Octavo; pp. xiv + 97, and 43 plates. New York; Charles Scribner's Sons; 1909), and in Mrs. N. Hudson Moore's *Old Pewter, Brass, Copper and Sheffield Plate.* (Small octavo; pp. xiii + 239, ill. New York; Frederick A. Stokes & Co.; 1905). Both of these publications are of distinct value, but of limited application for us here, because their pages are devoted to styles and countries other than those to which we have restricted ourselves in these papers.

But by far the finest single piece of literary work in the field of American silver work is in the form of a huge catalog edited by E. Alfred Jones and entitled *The Old Silver of American Churches.* (Pp. lxxxvii + 566, and 145 plates. $40.) This is in folio form, the pages measuring eleven by fifteen inches, and presents the most thorough study of any of our early minor arts thus far given to the public. The volume was compiled under the auspices of the National Society of Colonial Dames of America and privately printed and published for this body in 1913 at Letchworth, England. Its illustrations will merit extended study.

In connection with early metal work in this country the activities of the Revere family, and notably those of the historic Paul Revere himself, must not be disregarded. The Revolutionary importance of the latter has probably been the chief reason for the number of books covering his silver and other metal work individually. We may mention among others E. H. Goss' *The Life of Colonel Paul Revere* and Arthur H. Nichols' *The Bells of Paul and Joseph W. Revere.*

The field of pottery and glassware is too far beyond our present province to merit more than passing mention. The foremost authority in the former domain is without doubt Mr. Edwin Atlee Barber, Curator of the Pennsylvania Museum and School of Industrial Art at Philadelphia. Over his name have been issued *The Pottery and Porcelain of the United States,* which offers an historical review of American ceramic art from the earliest times to the present day (Crown octavo; pp. xxi + 539, ill. New York. G. P. Putnam's Sons; 1901), and *Tulip Ware of the Pennsylvania German Potters.* (Octavo; pp. 233, ill. Philadelphia; Pennsylvania Museum of Industrial Art; 1903. $1.) An interesting volume devoted solely to China is that by Alice Morse Earle entitled *China Collecting in America* (Octavo; pp. xi + 439, ill. New York; Charles Scribner's Sons; 1906), which, however, has again a limited value for us here because distinctly American porcelain and china have so small a space assigned them within its covers. In the field of early glassware Mr. Barber again appears as the author of *American Glassware, Old and New,* which offers a sketch of the glass industry in the United States and is prepared as a manual for collectors. (Duodecimo; pp. 112, ill. Philadelphia; Patterson & White Company; 1900. Out of print.) Obviously the name of Stiegel must loom large over the whole of the sphere of glass making and designing in our formative time. No less than three excellent books are devoted to his activities alone, namely, A. S. Brendle's Henry William Stiegel, J. H. Sieling's Baron Henry William Stiegel and Frederick William Hunter's *Stiegel Glass* (Imperial octavo; pp. xvi + 272, and 12 plates in color from autochromes by J. B. Kerfoot. and with 159 half tones. New York; Houghton, Mifflin & Company; 1914).

Our next paper will be devoted to books dealing with Colonial furniture.



Some Interesting Fragments of Renaissance Architecture.

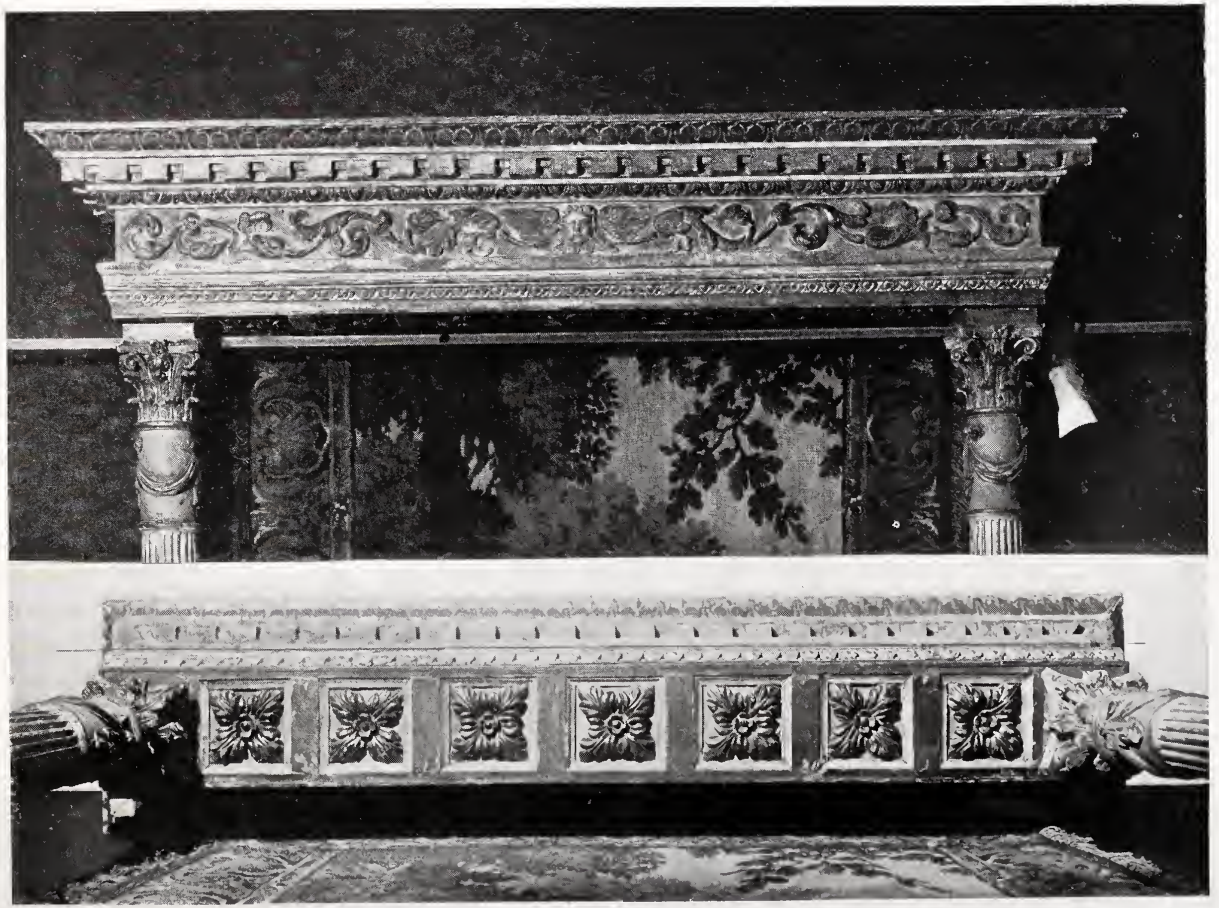
"Giovanni Pisano, the lad whose uncle had just finished the great leaning tower, lingered at his work in the little workshop where he did his carving. The shop was in the alley just east of the Bishop's garden. . . . Giovanni lingered because of a certain panel. It was of wood, about two spans square and richly carved with a shield bearing the arms of a noble family. About the shield was a heavy ornamental scroll, deeply undercut and with long sweeping lines. The boy turned the panel this way and that—to the right and to the left. Walking across the room, he turned it upside down and set it upon the top of a shelf. Then, going to the bench, selected a large pair of wood compasses, which were tipped with ivory points, and proceeded to measure and compare the various dimensions of the panel. 'Yes! It is not square,' he muttered, 'but it looks quite so.' By skilful manipulation of the lines in the carving on the edge of the panel and by means of the proportions of the shield itself, which formed the central motif, he had succeeded in obscuring the fact that the extreme boundary of the panel was not a true square. 'I will test it,' he said, and, taking the panel under his arm, he left the shop and alley and wound a devious way to his chum, Rienzi, the armorer. A strong shoulder pressed against the iron laden door of his friend, sent it creaking open. The interior of the smith's shop was disclosed, reeking of the soot of many forge fires, hung with armor, some rusty, some glossy and fresh from the hammer. In the midst of the litter, his finger on the point of the glistening blade of a newly tempered dagger, stood Rienzi. 'What hast thou done now, Giovanni? Thine eyes like two suns look into my dusty cell. Why the fresh beaming of so much joy?' 'I finished the panel for the Bishop's door and I have brought it for you to see.' He stood the panel on the shelf, back of the vise, where the light from a small window fell full upon the carving. 'It is well, Giovanni, but why so free in thy way with the forms—should not more of absolute symmetry prevail in the ornament?' 'Nay, I think not, replied Giovanni. 'It is just my play, anyway. The panel is square and true at least, think you, staid armorer?' 'Square? What meanest thou? Why jokest thou? Surely is the panel square, else hadst a hard time to fit it in the door. Ave Maria!' 'But, Rienzi, should I tell you that the panel was not square, how much wouldst wager me that it is not out more than the width of a finger either way?'

"Reaching under his leathern apron, Rienzi drew forth a long mole skin bag, which bulged a little with coin and laid it on the open table near. 'Now, a pest on thy foolishness, I will wager the price of the Cardinal's dagger that my compass will prove thy panel to be square within the breadth of my little finger.' Giovanni leaped for the compass for which his friend had reached. Gauging the height of the panel accurately was the work of a moment; then swinging the tool deftly to the right, so that its span covered the width of the panel, he laid his two fingers into the space intervening between the edge of the panel and the ivory point of the compass. The stolid Rienzi looked askance. Then the ruddy hue of his countenance grayed a little. 'The evil eye,' he muttered. But Giovanni laughed a silvery laugh and took the purse. Then they were friends again, for these Machiavellian tricks came thick and fast from Giovanni and Rienzi had really learned to like them."

In the accompanying photographs we have shown two Italian doorways and an old Spanish picture frame. These were done at a time when the craftsmanship of architecture was deemed to be an essential



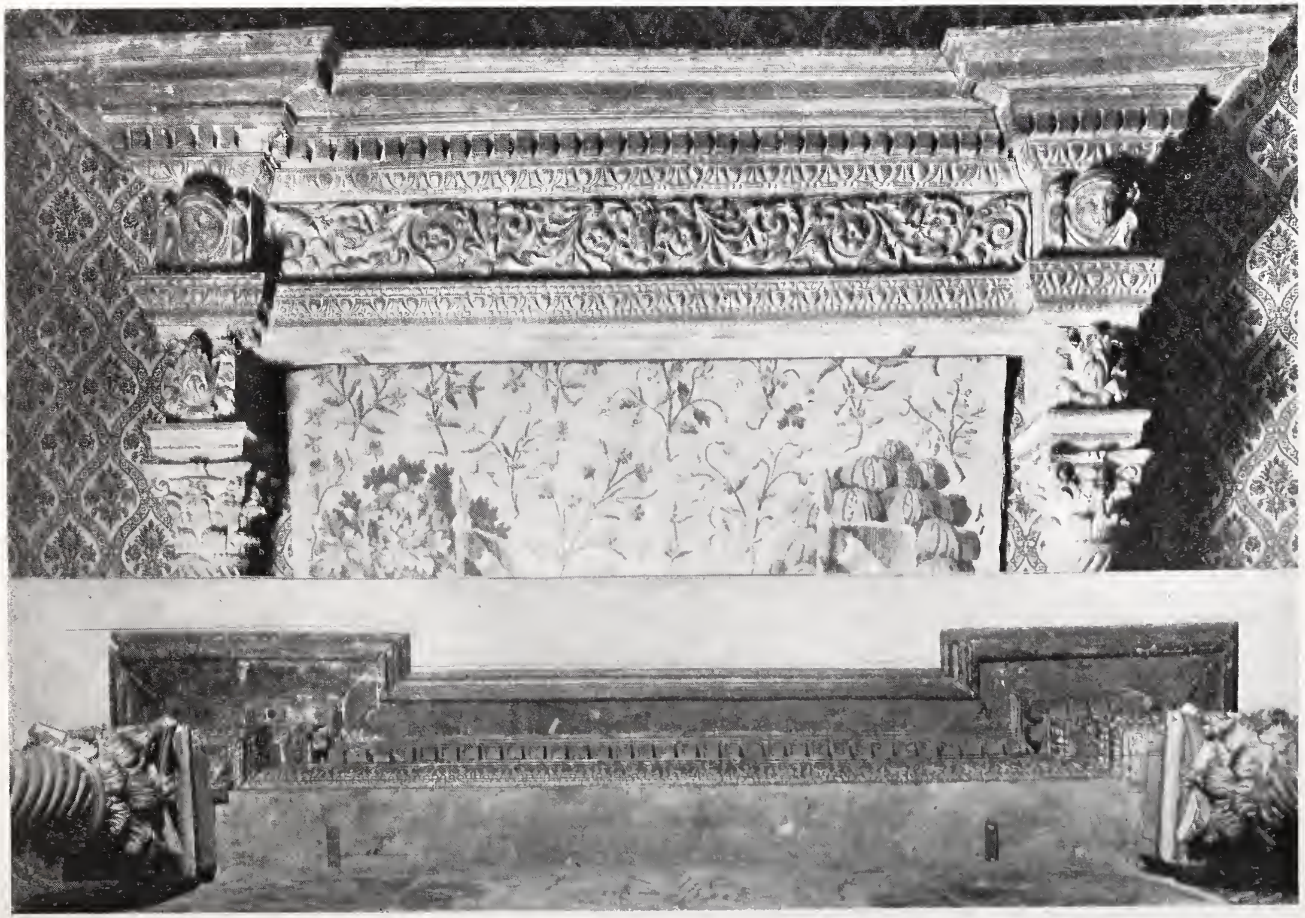
PLATE A.



PLATES C AND D.



PLATE B.



PLATES F AND G.



PLATE E.

part of the lost art. The eternal egg-and-dart, the ogee molding and all the other paraphernalia of architectural details were fashioned by artisans who had learned, like Giovanni Pisano, the value of a line in architectural composition.

Observe in Plate A the thickening of the cornice in the architrave molding of the entablature. Note that the section of the architrave ogee mold is noticeably stronger at the center. The shadow which tapers off to the pilaster is evidence of this. Apparently the entire length of the molding has been carefully modeled to produce this effect. Notice also that the egg-and-dart molding is carved more deeply in the center than at the ends, and that the modillions are irregularly spaced.

In Plate B, which is the bottom of the picture frame shown in Plate A, we note the gentle curving of the top of the base panel; also the curving of the sill of the picture opening in correspondence therewith.

Plates C, D and E show different parts of another fragment. In C we note the seeming curve of the top member of the cornice, due perhaps to a bungled splicing of the ornamental molding, but more probably so made with intention to soften the outline. It is clear that the section of the architrave molding is heavier at the center than at either end. Whether the artist thought to save himself the trouble of modeling the entire length of the molding by setting in a short piece of the bolder section, or whether it is a mere accident, we do not know. It is significant, however, that the change from a weaker to a stronger section occurs at the center of the motif. It is also noticeable that the section of the leaf mold in the crowning member, the spacing of the dentils, the egg-and-dart carving, and the architrave section all denote a change in the middle quarter. On the reverse side, Plate E, the refinements are not so evident, but by study of the plan, looking up, as shown in plate D, the ornament of the architrave is perceived to be more shallow at the ends than at the middle. In this same Plate D it may be noted that the panels in the soffit differ in size and in the character of the modeling. The center panel is comparatively flat, the other panels are perceptibly deeper, and the rosettes on either hand are more deeply carved than the center rosette. There seems to be a progression, indicating added strength in each succeeding panel from the center out.

In Plates F and G there is a quite definite curving of the members of the bed molds of the cornice, which is clearly indicated by the deepening of the shadow toward the center. (These refinements are quite evident in spite of the wrecked condition of the crowning member.) The curve of the crowning member is shown in the photograph of the plan, Plate G. In this photograph also note the varying size of the dentils and the varying depth of the architrave molds; also that there is no correspondence between the spacing of the egg-and-dart molding and the dentils immediately over.

These examples of ancient architecture (sixteenth century) are now on sale in San Francisco, having been recently brought thither by collectors. They are richly carved, colored and gilded, toned by time to the subtle grays. It is stimulating to be reminded through them of other days when these gray whites were white, these reds like the red on a Cardinal's coat, and the blue as cobalt of the sea—and to know that in the color drama of which they were part, these fragments were but brilliant counterpart and complement to the rich trappings of rooms filled betime with the silks and satins and jewels of a people so discriminating as to note with pleasure minute fragments of form.

A lively appreciation of the value of subtle coloring in the rendering of architectural forms is stimulated by such examples. These trivial ornaments cast adrift on the shores of the Pacific in the midst of an alien civilization, poignantly point the finger of criticism at our modern methods in architecture. These simple egg-and-dart moldings, carved so carefully, so gracefully graded to suit some fine eye! How can we look with complacency upon the wagon load of egg-and-dart moldings just arrived from the factory to be placed in the drawing room of our favorite client?

Surely the love of simple things, made beautiful with care, is here made manifest, stimulating us with the thought that in the wide range of architecture there is a wealth of opportunity in a similar direction. And the architecture of the Renaissance, to many merely a derivative style, without claim to dignity or virility, as compared to the classic types, through such examples as these claims our larger human interest. These sermons in wood and gilt and color point away from a too formal, too symmetrical handling of our problems in architecture, even point away from a too great insistence on what may be termed "the ideals of the Beaux Arts." The sane,

but sometimes puerile insistence on mere mass and composition and function, leaves little room for a kindly look at meaningful detail, subtlety of line and wealth of color.

The rendering of architectural details with finesse and imagination is so altogether worth while that the question naturally arises, Why do we not do our work more often in this way?

The answer to the above question can be found partly, perhaps, in the fact that our great schools of architecture, which no doubt have dominated to a great extent the aims of our well trained architects, are not equipped, either through sympathy or knowledge, to teach these intimate and subtle tricks of the craftsman's art.

The schools naturally aim to give the formula for correct architecture, and if the term "correctness" may be deemed to omit the idea of inspiration and a consideration of the abstract values, the schools have accomplished their task. Too much cannot be said in appreciation of the rock-bottom value of technical education, as purveyed. We have been saved from the perdition of being illogical and illiterate in architecture, but we have not been instructed in many interesting phases of architecture, as practiced by the ancients. We have been amply fed on the A, B, C's of architecture, and when I say A, B, C's it is to be remembered that, whereas many great architects have passed through successfully the influence of the Beaux Arts training, there have been few buildings built in strict harmony with the precedents of that training that may be called great in the sense that we call some of the Gothic cathedrals great.

There is something beyond the T-square and triangle and compass and Vignola for the architect. The poet does not always linger with his sonnet, the traveler with his handbook, or the cabinet maker with his glue pot. There are other things in architecture and in architectural composition than mass and general proportions and function. In the subtleties of the Greek and Renaissance architecture we learn that curves as delicate as those of a butterfly's wing, or as suave as the swing of a glacier, may find a fitting place in the façade of a building or in the bedmolds of some otherwise insignificant doorway.

WILLIAM L. WOOLLETT.

The Old Spanish Mission of San Gabriel.

But a short ride outside the bustling city of Los Angeles, with all its indications of the modern progress that Californian cities display, stands the remains of one of the most picturesque of the old Spanish missions, that of San Gabriel, Arcángel. Every tourist in the Golden State becomes familiar with the names and with snatches of the history of the Spanish missions that are standing as memorials to the missionary spirit of the Old World Spaniards. To the visiting architect, however, this little chapel of San Gabriel is of more than passing interest, for it tells the story of the skill of the Spanish padres in things architectural, of their clinging to Old World tradition and precedent, and yet of their adoption of the materials of the new land.

If one visits this old mission landmark at sunset, when the last tourist has taken the car for town, when the post-card and curio vender has ceased to show his wares and the last rays of the setting sun gilds the ancient bells in the campanile from which the Angelus is sweetly sounding, he cannot but be impressed by the quaint charm and almost mediaeval atmosphere that seems so foreign to American haunts.



MISSION OF SAN GABRIEL, ARCÁNGEL, NEAR LOS ANGELES, CAL.

The old mission of San Gabriel was founded, according to records, in September, 1771, by one Padre Somero. The first wooden buildings, covered with tiles and surrounded with stockades, were constructed by natives under his direction. The masonry church which now remains was not completed until much later. It is a long, low structure, measuring about one hundred and forty feet in length by twenty-five feet in width, while the height does not exceed thirty feet. The walls are very thick and composed of a mixture of rubble stones, cement and brick. These walls are supported by ten buttresses supposedly designed to counteract the thrust of an arched roof. Such a roof is reported to have been partially destroyed in one of the earthquakes and a tile roof is now seen in its place. The buttresses are terminated with pyramidal copings which are divided into three unequal portions by projecting ledges.

The most interesting feature of the exterior is the campanile, a solid wall pierced at unsymmetrical intervals with seven arches built to correspond to the size of the bells which were to be hung within them. The bells were of various sizes, yet in spite of the irregularity in the arrangement of the arches, the whole bell tower is beautiful in outline and harmonious in general effect—quite worthy a motive for the pictures, songs and stories that it has inspired. At the side, away from the building, the wall is cut back with irregular steps to the crowning arch feature, each step being capped with a simple projecting molded cornice. The crowning aperture is spanned by an elliptical arch which is surmounted by a small iron cross of delicate lines.

At the other end of the street façade, a narrow exterior stairway leads up from the ground level and adds a picturesqueness that is aided by the tropical growths of palm and pepper tree.

The interior one feels to be marred somewhat by modern remodeling that can scarcely be in keeping with the original construction. Several quaint pictures on the walls and the old statues on the altar are touches of unusual interest, while in the baptistry a font of hammered copper tells of the handicraft skill of the mission work shops.

The charm of the little place may be due to some extent to the historical associations, but more, no doubt, to the pleasing originality of the architectural forms and the beautiful harmony of the rich coloring. The Californian climate is kind to the old stucco walls and lends its soft greens of pepper and eucalyptus trees and luxurious forms of date and banana palms as a graceful setting to the dull earth tones of the walls and roofs. The high notes of color in the rambler rose and fragrant clematis add richness and splendor to the crumbling stucco, and over all prevails that unaccountable charm, that atmosphere of inbred beauty doubly enhanced by years of sacred service.

RALPH S. FANNING.



SAN GABRIEL MISSION.

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VIEW FROM PERGOLA, LOOKING SOUTH—
WOOLLEY HALL, MAIDENHEAD, ENGLAND.

THE ARCHITECTVRAL RECORD

VOLVME XLI NVMBER II

FEBRVARY, 1917

The New Landscape Plan for Woolley Hall, at Maidenhead, England

By Thomas H. Mawson

THERE seems to be quite a number of families just now who are able to make the best of two worlds, the Old and the New. What I mean is that men like Mr. Andrew Carnegie have their business associations in America and live a large part of their social life in Great Britain. Some, like Mr. Carnegie, in Scotland, domicile themselves in localities full of romance and the grandeur of nature; others, like Mr. Cottingham, in the peaceful sleeping valley of the Thames, and yet within a short run of London, with all its pulsating energy and life, where business can still be pursued in combination with the joys of horticulture and the pleasures of rural life. A large group, and an increasing one, take to the hunting field and other sports. In any case the families either erect a home for themselves, or, as more often occurs, acquire one of our ancient family houses already replete with every suggestion of history, romance and evidence of modern refinement.

For myself I like the dreamy quiet of the Thames valley; it is the place of quiet anchorage for a man who, whether in the States or in England, is directing big enterprises to successful ends. Moreover, in the case of Mr. Walter H. Cottingham, president of the Sherwin-Williams Company, it was a matter of deep importance that the English home should be in the strongest contrast to the home in Cleveland, Ohio.

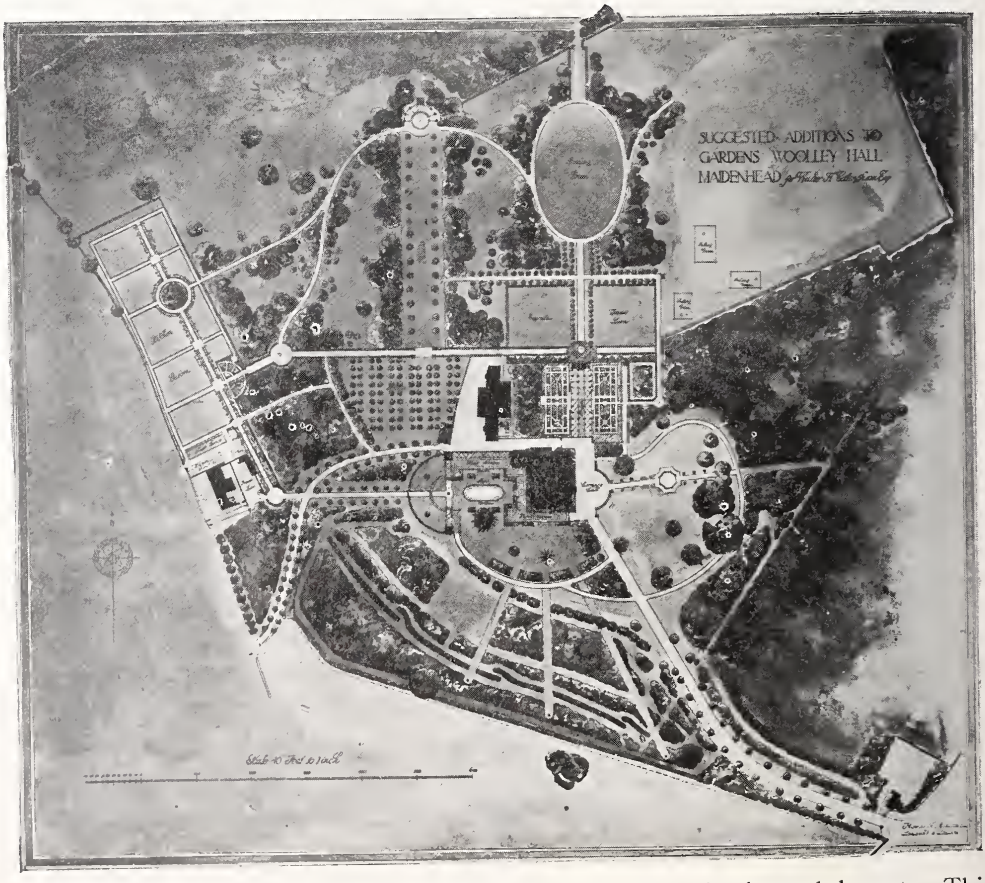
Woolley Hall is situated about two miles west of the quaint old town of Maidenhead, famous as a week-ender's paradise; but the hall, which is far removed from the madding crowd, stands remote in its own grounds, which extend to about sixteen acres, with an additional three hundred and fifty acres of beautiful

forest and parklands studded with timber such as is to be found only in England. The hall is a modern building erected at great cost about sixty years ago, the style being transitional between late Georgian and early Victorian. The gardens were laid out at a later date in what is known as the English landscape manner, without much evidence of design, but exhibiting an intense love for conifers and trees of curious and rare habit. These have now grown so much that drastic thinnings have had to be carried out, along with a rearrangement in parts, which will ensure to Woolley Hall a continuity of forest-like effects. As will be seen by the photographs, however, it is the old timber trees which secure the dominant expression. The cedar of Lebanon, for instance, which stands near the lily pond, is one of the finest in the country.

Since the present proprietor entered into the estate, the residence has been enlarged and improved in many ways, so that it may now claim to be a good example of an English country house, fine and commodious in scale, convenient in plan and comely in its decorative treatment.

Such a house called for an architectural response in the garden, and for the merging of a certain amount of studied order into the more haphazard layout. This has led to the preparation of a comprehensive scheme, laying down a policy for the development of the garden according to a co-ordinated treatment which would take advantage of every existing feature of interest, whether lawn or forest tree, and the introduction of other necessary features, without harshness or discord.

I always think that in England and in America the gradual development of landscape art has resulted in the power





POND GARDEN—WOOLLEY HALL,
MAIDENHEAD, ENGLAND.



PART OF UNFINISHED CARRIAGE COURT, SHOWING WALL OF CLOISTER GARDEN; THE SMALL ARCHES ARE FILLED WITH FRENCH TREILLAGE.



THE THREE ENTRANCES TO THE CLOISTER GARDEN, WITH TEA HOUSE—WOOLLEY HALL, MAIDENHEAD, ENGLAND.

to co-ordinate many factors which are fixed and abiding with others which may seem foreign to them. The power to visualize them has been evolved by centuries of contact with art and nature. Our love of both has helped us to picture them in proper juxtaposition. I trust that this merit is in some degree exhibited in the plan and photographs.

My client was wise enough to see that whilst he had in Woolley Hall a fine house and a fine garden, he did not possess that unity which we always refer to as "house and garden." The problem which he set me was suitably to wed the two, so that they might become one. In all such cases the first question which has to be settled is this: Which shall be the dominant note, art or nature? As Bagehot put it, "which is to be conductor and which first fiddle?" They can never be equal in their appeal. In the town or suburban garden art should usually predominate, but in places like Woolley Hall nature should be foremost. It almost appears in the photographs as if the opposite was the case, but reference to the plan and a careful look at the trees in the illustrations will show that nature is easily "conductor."

Working from the residence, we start with severe formality, treating the immediate precincts as a series of what J. D. Sedding called "outdoor apartments." Thus we have the terrace and pond garden immediately in front of the entertaining rooms; a cloister garden, entered directly from the carriage court; then, in the following order, the tennis courts and bowling green and the ribbon-like "grass drives" or glades, which thrust their arms into the forest and woodland.

The view of the pond garden with pergola and temple is taken from the upper terrace and is practically the view which is obtained from the west window of the great parlor. Unfortunately all the views were taken within a month of the completion of the work and before the roof of the pergola could be clothed with greenery, but this added effect can easily be pictured by the initiated. Even the aquatics require another year to give them that aspect of luxuriance which is natural to them. In this picture is to be seen the great beauty of the forest background. The second view is from the end of the pergola looking south and shows some of the beautiful conifers to which I have already referred.

The third view shows the three arched entrances to the cloister garden, with the tea house at the end (note the vista through the open doorway). The central footpath is laid down in grass, but the pergola paths are laid in brick. On either side of the cloisters there is a rose garden with beds cut in grass. Roses in flower can be seen between the brick piers of the pergola.

The fourth view shows a part of the still unfinished carriage court and the arched wall which encloses this side of the cloister and the panel rose garden. The small arches are filled in with French treillage. Here again is seen the splendid character of the native timber.

These four photographic views indicate the character of the work so far accomplished and which has occupied the labor of two successive winters. A third and smaller section is being undertaken this year. This consists of an oval lily pond near the tennis courts (shown as a bowling green on plan); the circular open-air garden theatre, which is also due east of the carriage courts; and the erection of a new entrance. There still remain the remodelling on economic lines of the kitchen garden and vineries, the planting of a new orchard and the layout of new landscape lawns intersected by a lake, and the planting and grouping of choice shrubs and trees. Plans have also been approved for the remodeling of workmen's cottages on the estate, and finally it is proposed to remodel the dairy farm and make it into a picturesque group of buildings. From this it will be gathered that there are still years of work before my client's ideal is fully reached. As no joys are so pure as those of a garden lover, I hope his ideals may continue to expand, for to the possibilities of fine gardening there is no end.

I ought to add that in designing this garden I have had the hearty co-operation of my son and partner, Mr. E. P. Mawson, who is already known to many of my professional brethren in the States.

English Architectural Decoration

Text and Measured Drawings by Albert E. Bullock

Part 1

DECORATIVE treatments are usually divided historically into certain periods, in order to indicate the typical ornament to be applied, together with the correct furniture and hangings with which to furnish an apartment. A successful finish should show a rhythmic harmony in its general appearance, with an absence of superfluous ornament. Each of the styles from Elizabeth and James I to Adam and later Victorian periods was governed by certain distinct principles of composition. The object of these articles is to give some typical examples in the several periods with appropriate details.

Paneling and plaster work are the chief features of the older styles, and their variations have formed the basis of later work. With the earlier periods the panels themselves were small and the walls were treated either to their full height or with deep modeled plaster friezes. Ceilings in the late Tudor times were of small molded ribs in various geometric formations, until the introduction of Italian craftsmanship, when papier maché plaques were used in conjunction with wooden moldings, the mitres being covered with large button-headed nails that secured the lead leaves which covered the mitres, as is instanced in the ceiling to Cardinal Wolsey's closet at Hampton Court Palace. Thereafter a gradual development followed, with broad flat ribs interlacing in patterns and having enriched bands and frequently pendants of considerable projection.

Early seventeenth century and late sixteenth century ornament had curious similarity in quite distinct parts of England and Scotland, indicating the existence of a guild or fraternity in the craft governing the main principles of the treatment. During the reign of Henry VIII Hans Holbein executed the ceiling to the Chapel Royal at St. James's Palace, in 1540, while in the time of Elizabeth the system became somewhat set and lost much of the originality the Italian manner was intended to foster. There are many examples of this latter period, especially during the opening years of the seventeenth century.

Sizergh Castle, Westmorland; Canonbury, Towers; Sir Paul Pindar's House, Bishopsgate; the Palace of Bromley-by-Bow; Hatfield House; Knole, Kent, and many other examples may be cited in which treatments on exactly similar lines can be found as far north as Balcarres in Fifeshire. The above-mentioned examples range from 1575 to 1606. With the introduction of the work of Inigo Jones at Greenwich, Forde Abbey, Wilton and elsewhere there is a marked change in every detail. The ceiling ribs are made up on a more constructional theory, with large panels intended for the reception of paintings, while the walls exhibit much originality, with columns or pilasters for general division. Where these latter did not occur, the walls were very successfully subdivided by means of paneling and ornament in varied formation, often picked out in white and gold, or in oak, with at least one notable instance where a reception room contained a black ceiling with pale blue birds modeled thereon in staggered formation. Above the dado large spaces or panels were provided to contain pictures.

Throughout this period windows still retained a certain medieval touch of late Tudor origin in the mullioned and transomed frames containing casements filled with lozenge-shaped or rectangular glass. It was not until late in this century, or, to be exact, in 1670, at Ham House, that the first guillotine window or double hung sash was introduced into this country. The French folding casements were of later introduction, while the small cottage mullioned window with casement frames was a survival of Tudor times.

Metal hinges and fittings form an in-

teresting branch in all the periods, from the pierced wrought iron work of Elizabethan days to the chased brass and lacquered rim locks of the days of Sir Christopher Wren. At Hampton Court Palace and Belton House, near Grantham, there are some fine examples of chased brass work, while the French and Flemish smiths turned out some interesting designs of a very varied nature during the days when chain armor was the fashion and the sword was considered mightier than the pen.

Indeed, we have not to go back many centuries to discover evidence of the smith's skill in the mailed armor worn by the knights and cavaliers, while there exists in many monuments of Jacobean period elaborate representations of this class of work carved in marble.

In times when tapestries of "silk and silver" were the vogue the kings of Europe vied with each other in their production, making royal presents from their own weaving factories. Thus the tapestry works of James I at Mortlake, under the management of Sir Francis Crane, produced many beautiful hangings which were sent to France, where the Gobelins wove the marvelous works preserved at the Royal Palaces of England. At Hardwick Hall there are some fine tapestries in the Presence Chamber of heroic subjects treated in mammothlike proportions. Most of the larger mansions of England contain excellent examples of foreign weaving, as Forde Abbey, Dorset; Chatsworth, Belton, etc.

By the middle of the century a further change set in, by which carved ornament was judicially confined to certain salient areas, as the chimney pieces and door heads. Ceilings became more floral in character, and picture frames were often specially carved for a complete setting.

In the latter half of the century wood carving arrived at its culminating point of perfection under the impetus given by the chisel of Grinling Gibbons. This remarkable carver was the chief artisan employed by Sir Christopher Wren in his ecclesiastical work. The protégé of Evelyn, Gibbons evolved an entirely original method of depicting still life in all its varied beauty as embellishment to many state rooms in English mansions. His cult was followed by Watson and others at Chatsworth, the residence of the Duke of Devonshire; and it would, indeed, be hard to discern the difference in skill by comparing the carvings at Holme Lacy or Belton with those at Chatsworth, were it not definitely recorded that Samuel Watson had spent forty years carving at that mansion in the Peak. The only works of Gibbons at Chatsworth would appear to be a framed example of game, grouped with a lace cravat carved in pear wood, which adorns one of the walls of an anteroom, and the pendants in the Chapel between the cedar panels.

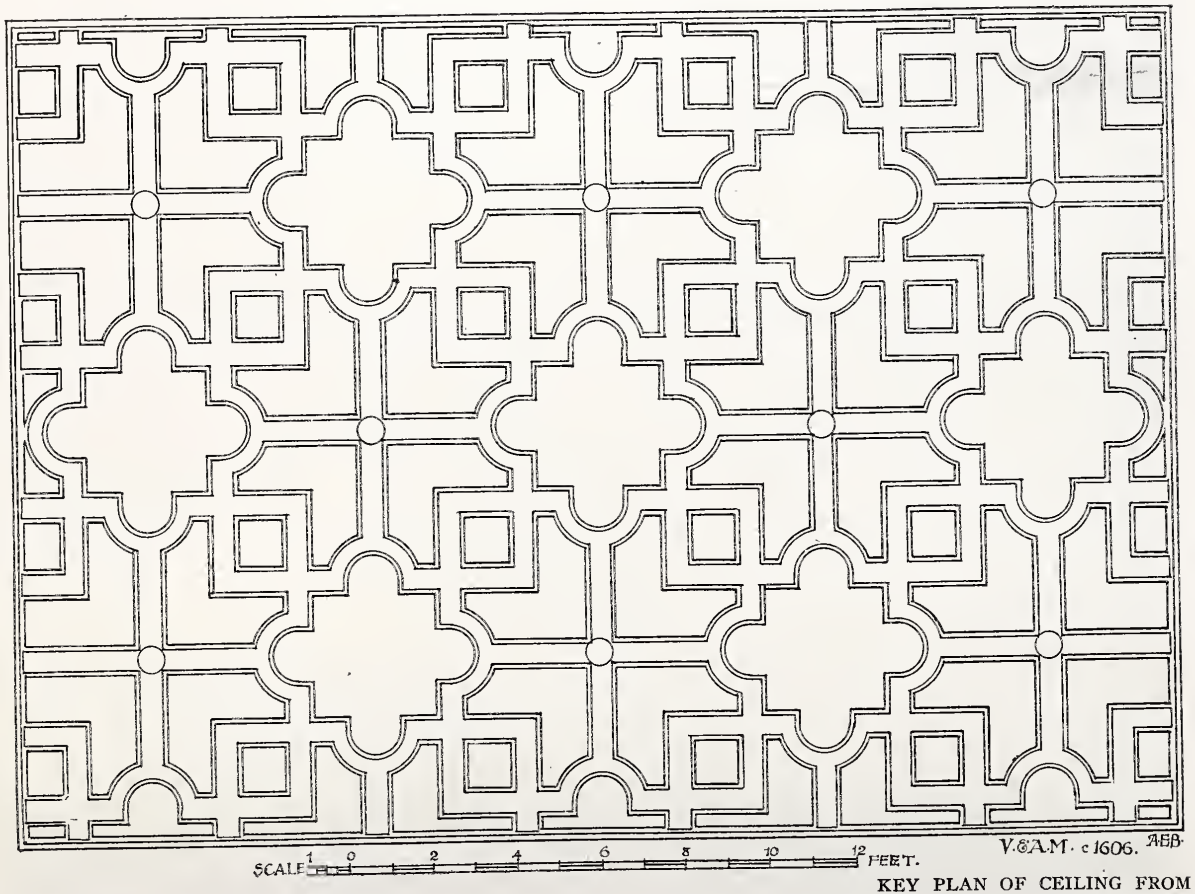
With the close of the century it became general to panel and carve in pine wood in lieu of oak, cedar and pear wood, the rooms being painted in various colors. The character of the main cornice is frequently a clear indication of change in style. In Jacobean times variety was often obtained by means of a dentil course; otherwise the cornice was void of ornamentation or enrichment.

In the early years of the seventeenth century cornices were frequently of plaster, with bold modillions and enrichments, the color scheme being white and gold. The William and Mary cornice, like that of Charles II's time, had a carved ogee molding below the fascia ornamented with a variation of the acanthus leaf pattern. During the days of Wren and Gibbs the examples are of the purer Palladian principles, while the Adam brothers favored the egg-and-tongue extensively and a great variety of other lighter treatments emanating from their researches at Spalato and many French motifs. For a short period subsequently a pure French vogue held sway, in which painted decorations combined with green and gold color schemes became general.

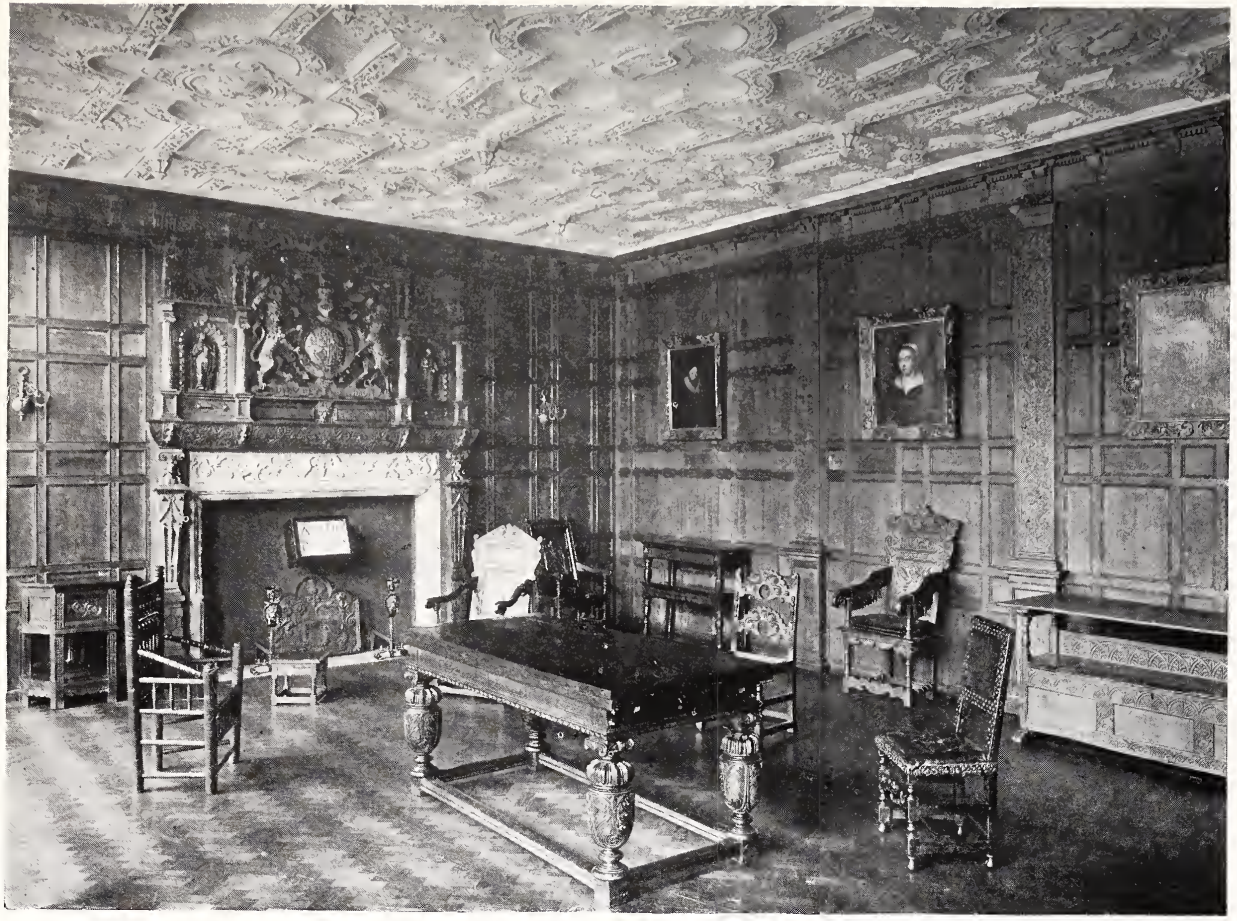
Throughout all the periods, among the ornament and enriched moldings, certain favored forms suffered changes which of themselves often indicate the period of the work. Chief among these forms may be mentioned the husk ornament, which was largely used as a conventional beading to window architraves and cornices to overdoors and the main horizontal cornice, finding most favor in the



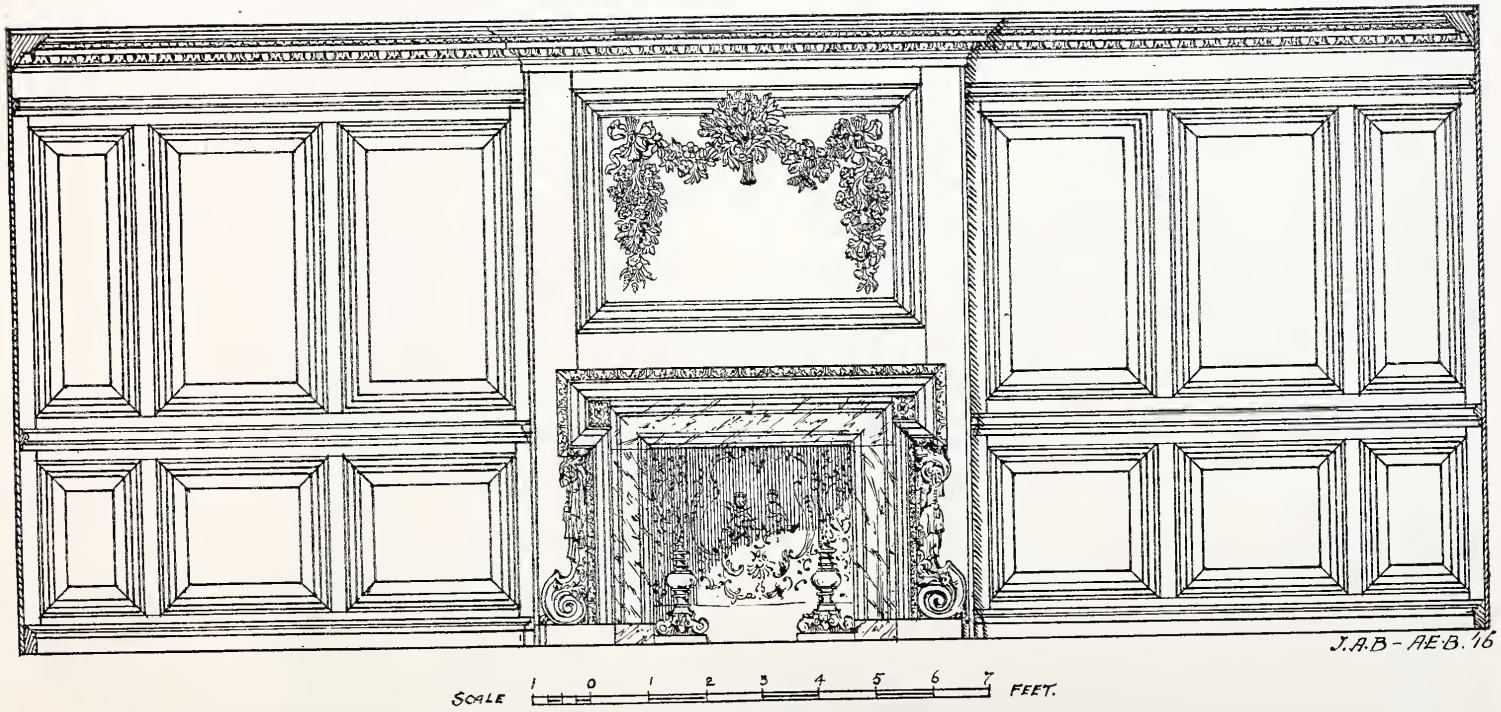
BAMPFYLDE HOUSE,
EXETER, 1590.



KEY PLAN OF CEILING FROM
PALACE OF BROMLEY-BY-BOW.



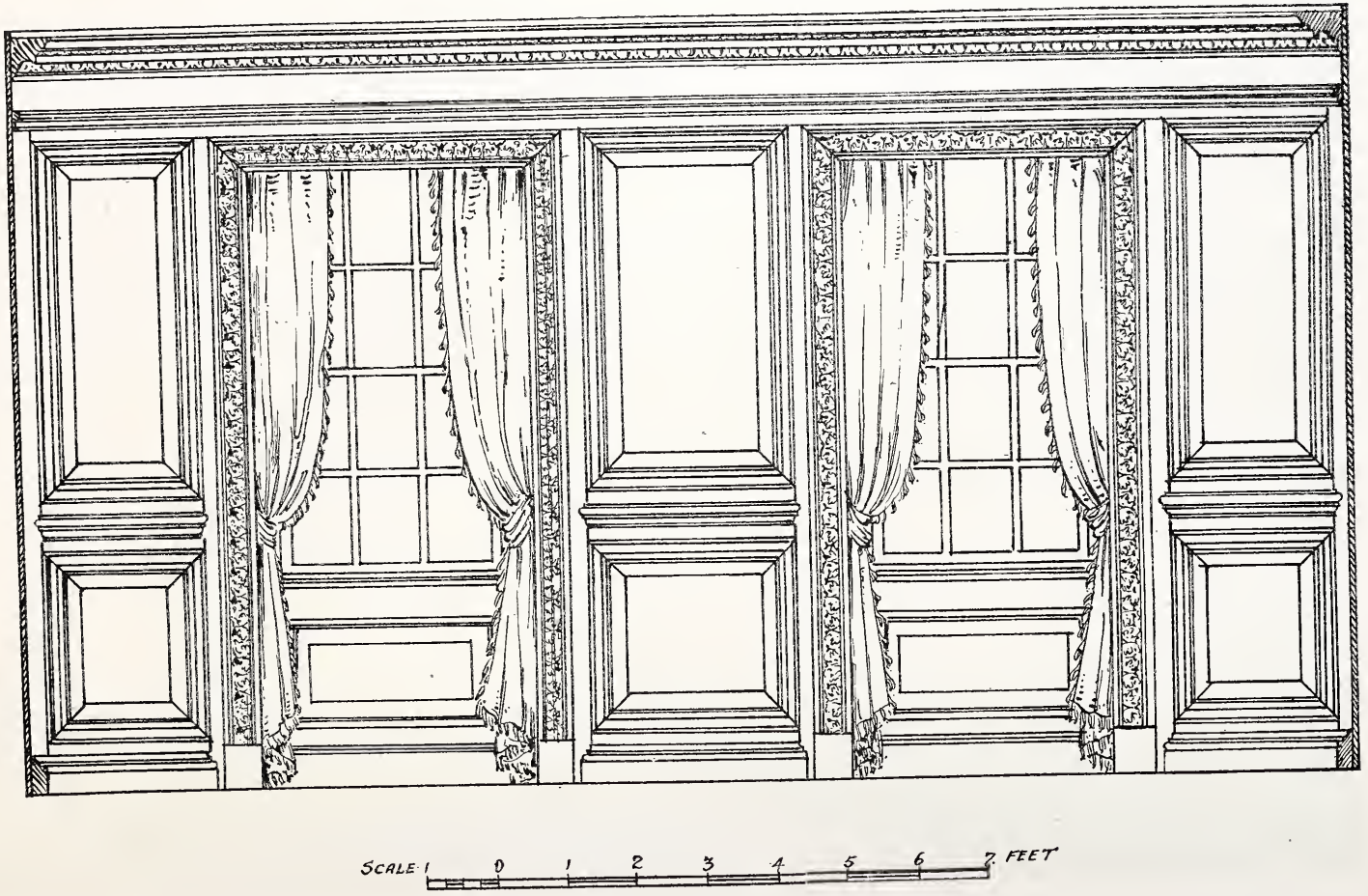
JACOBEAN ROOM FROM PALACE OF BROMLEY-BY-BOW, LONDON, ABOUT 1606.



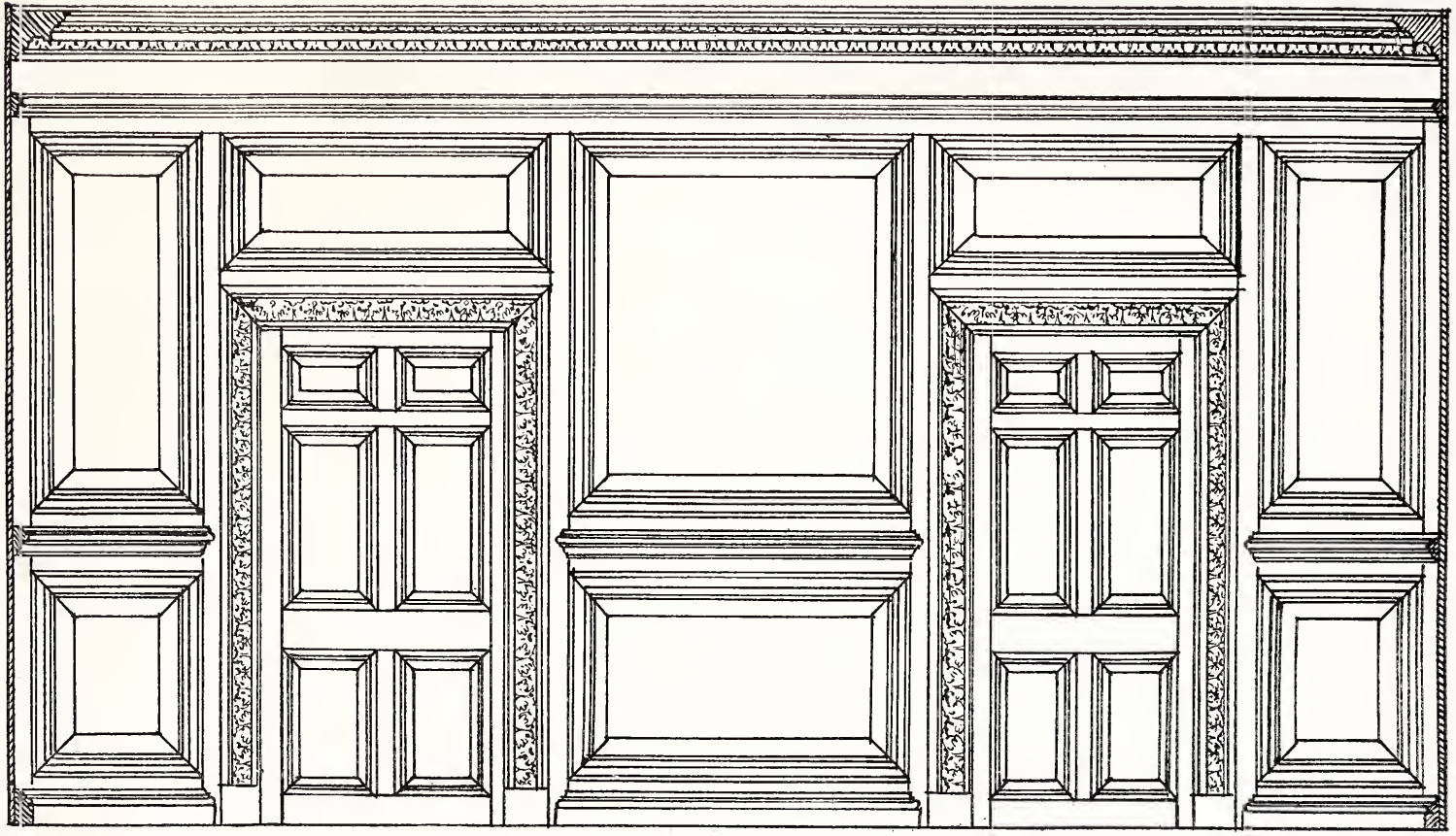
OAK ROOM FROM ACKLAND HALL, NORTHUMBERLAND. WILLIAM AND MARY PERIOD, ABOUT 1680-90.



OAK ROOM FROM ACKLAND
HALL, NORTHUMBERLAND.



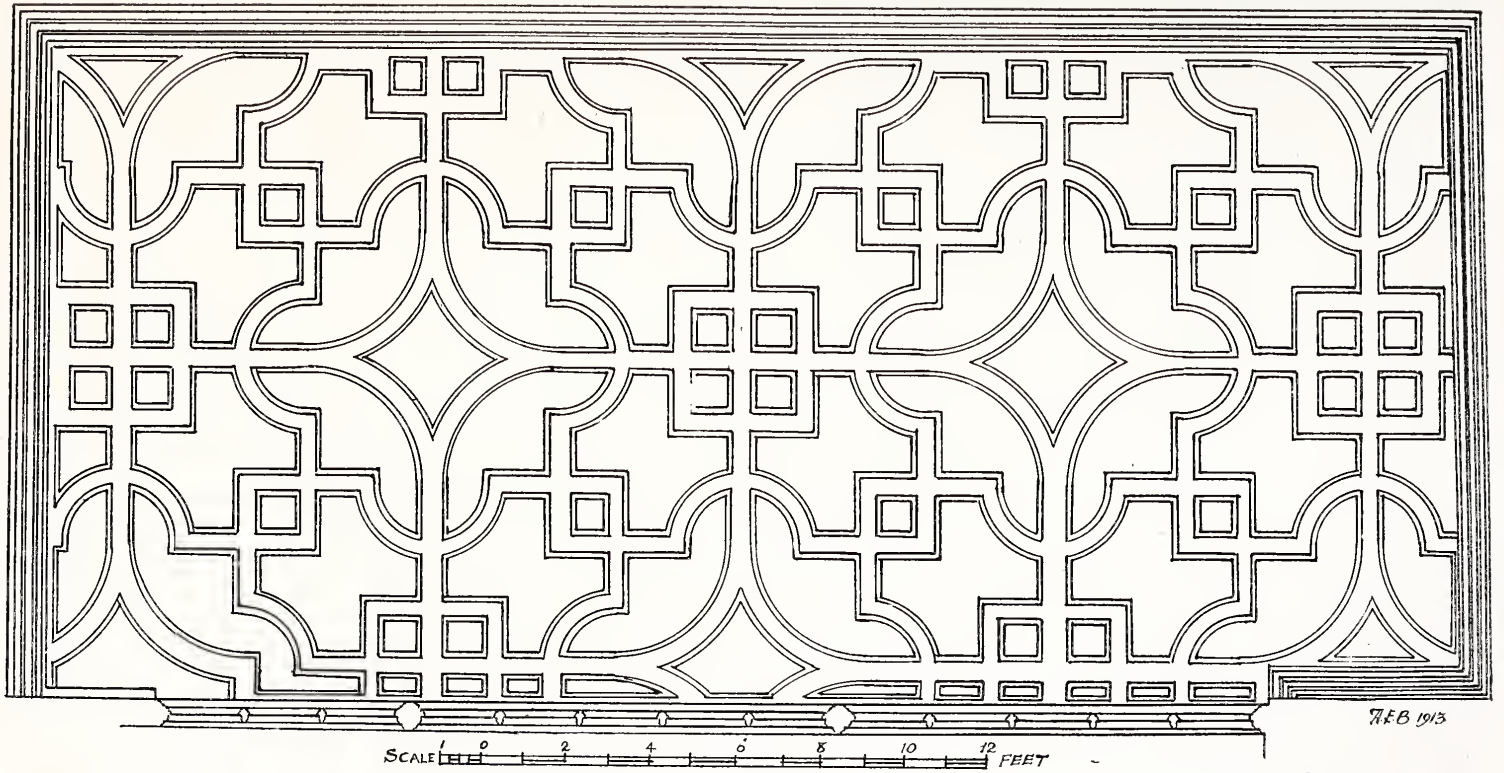
SIDE OF OAK ROOM, ACKLAND HALL, NORTHUMBERLAND.



SIDE OF OAK ROOM, ACKLAND HALL, NORTHUMBERLAND.



WILLIAM AND MARY [CHARLES II (?)] ROOM,
REMOVED FROM WALES TO HITCHEN.



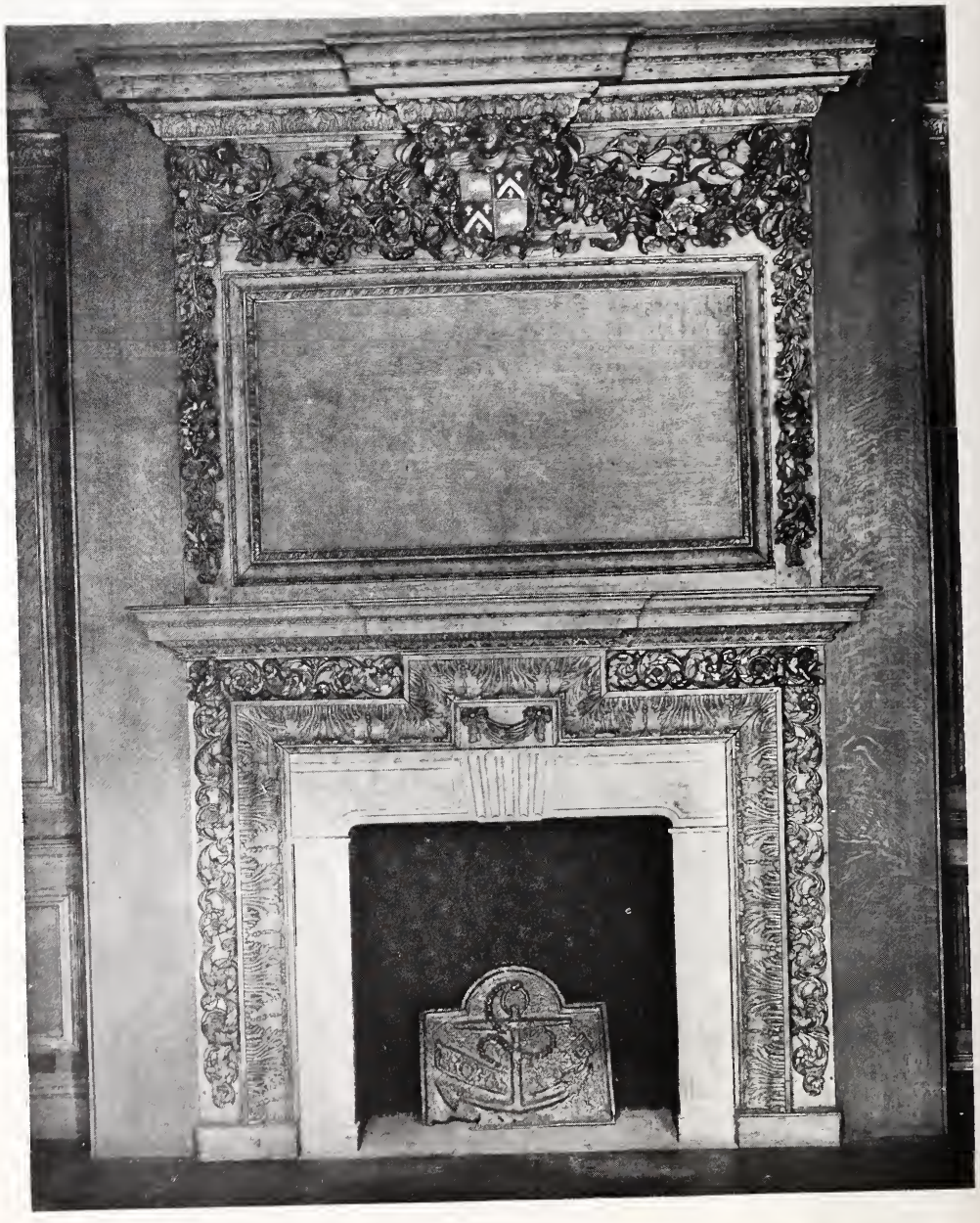
KEY PLAN OF MESSRS. PEARSE'S JACOBEAN CEILING, EXETER.



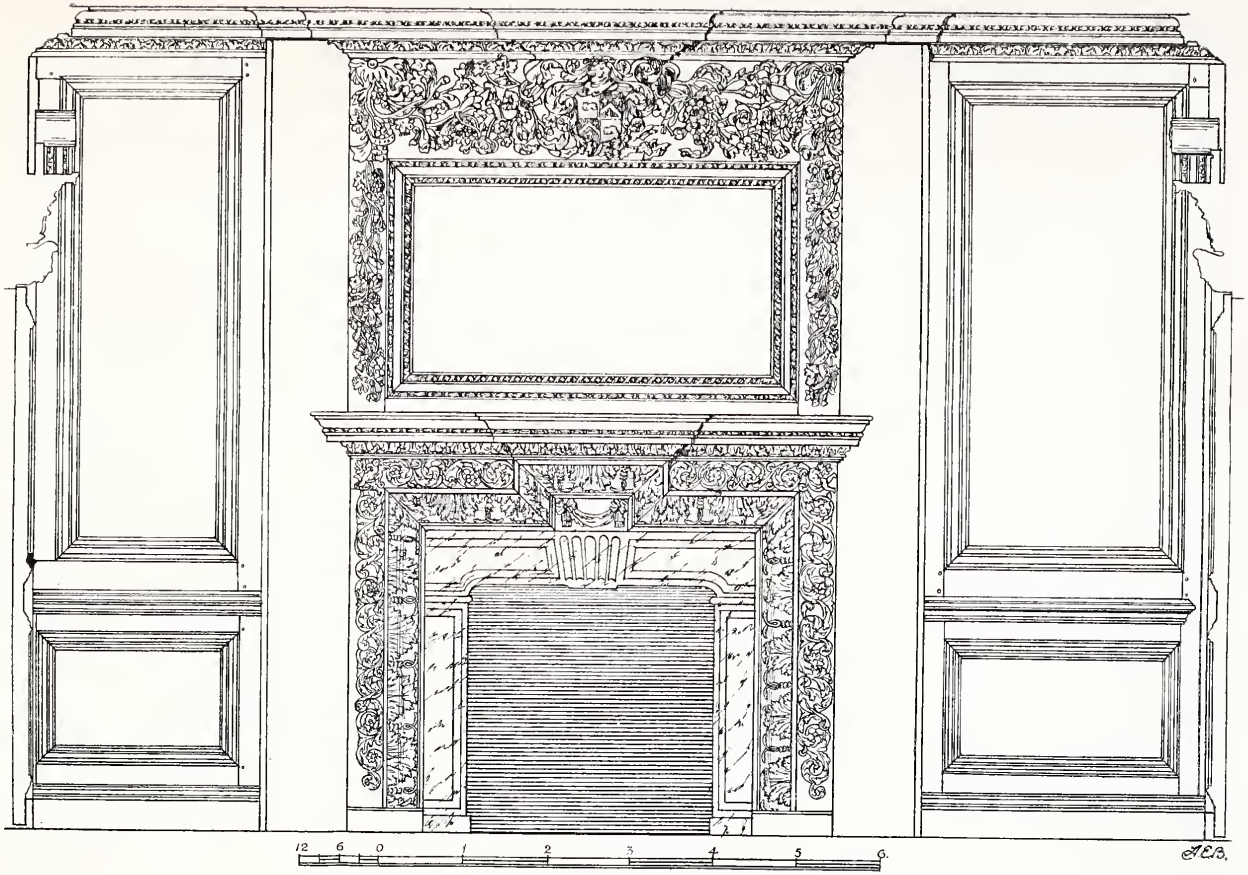
STAIRCASE, CHARLES II PERIOD, FROM LORD IDDESLEIGH'S MANSION, "THE PYNES," DEVON.



CHARLES II CEILING FROM MESSRS. GREEN'S PREMISES, EXETER.

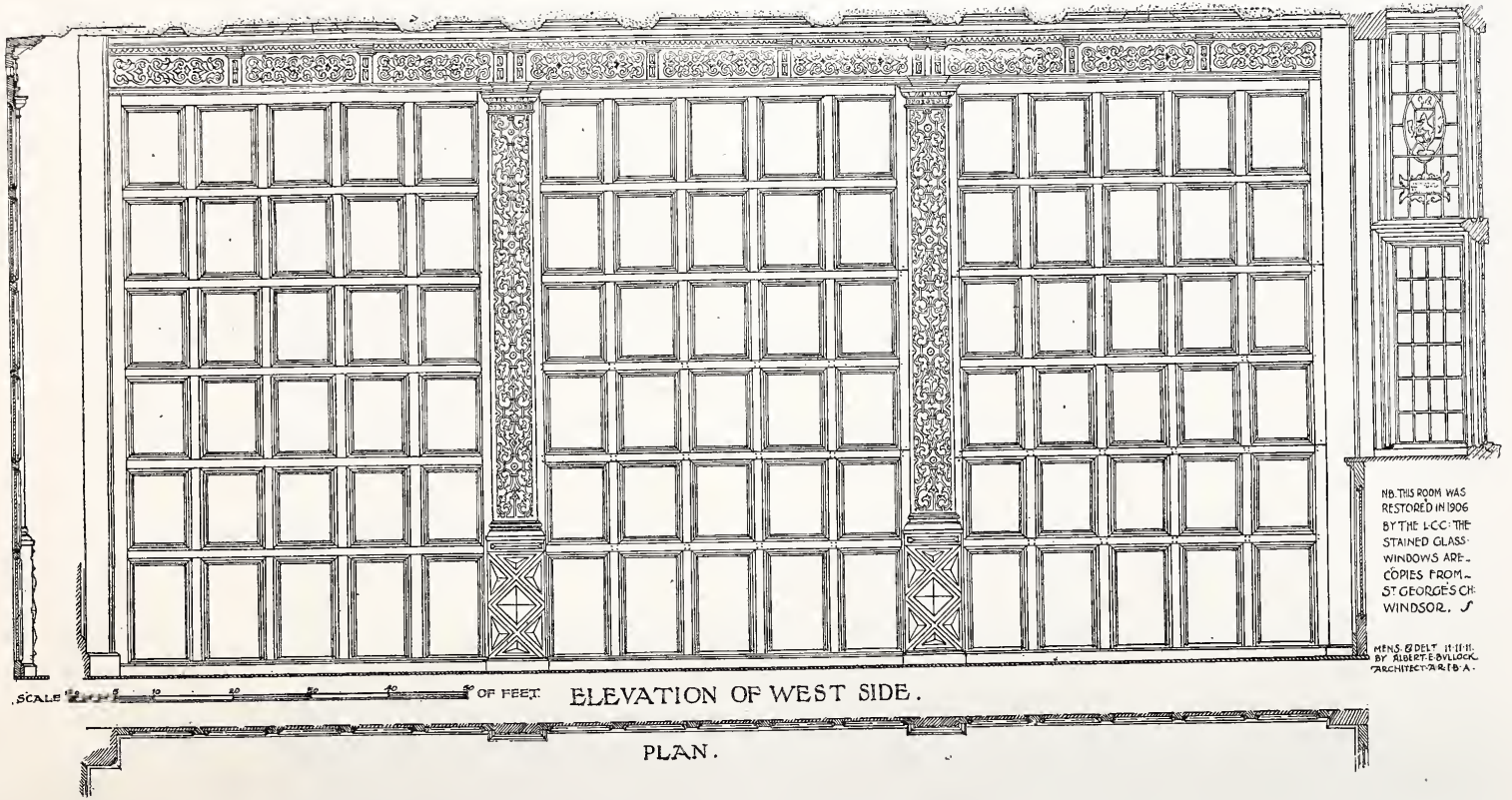


CHIMNEYPIECE, CLIFFORD'S INN,
FLEET STREET, E. C., ABOUT 1686.

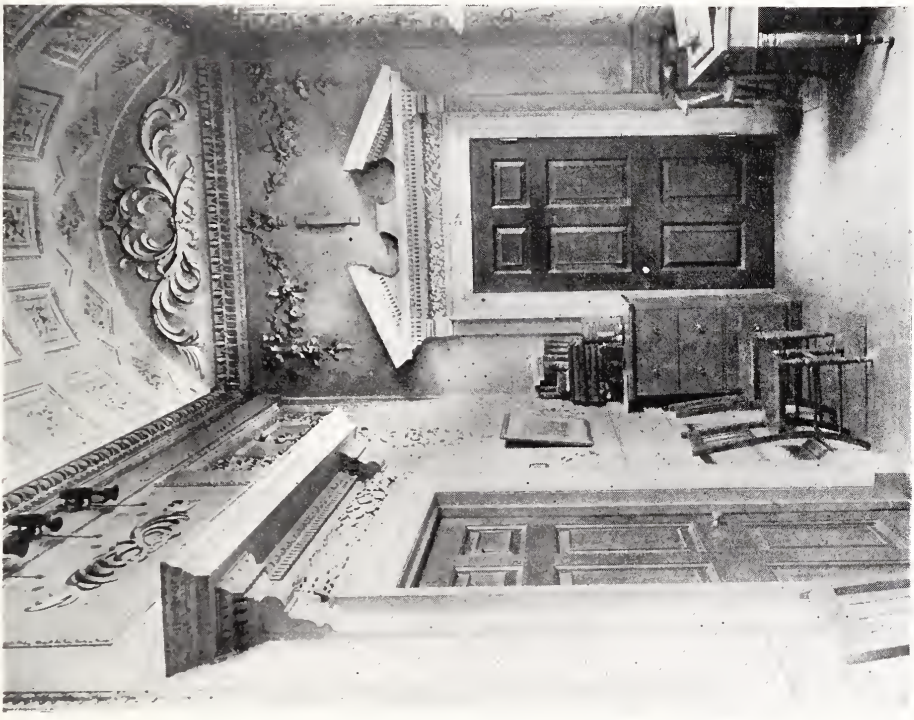


SCALE OF FEET.

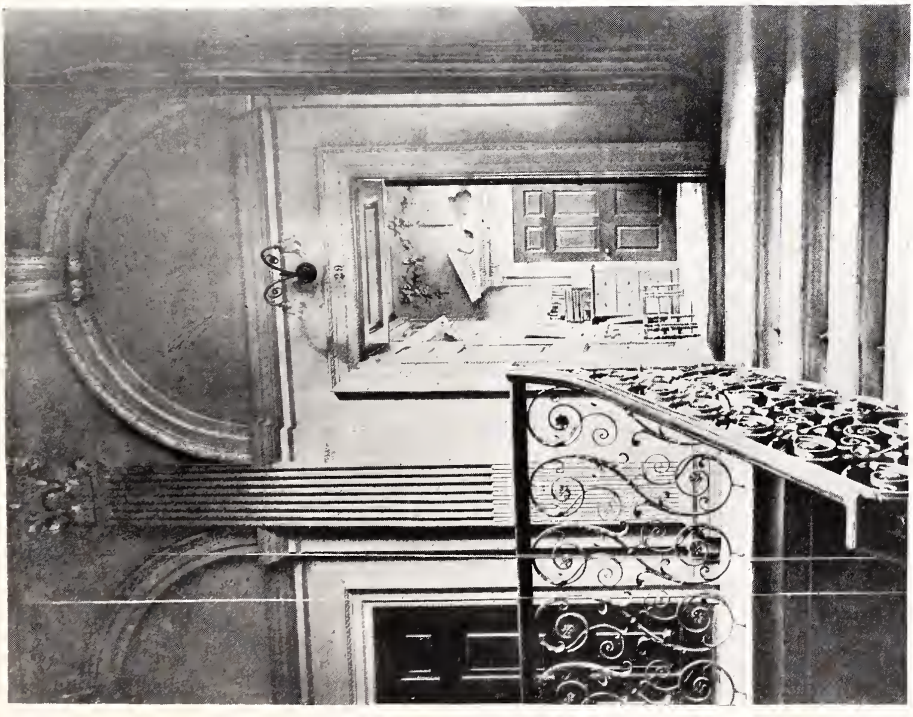
CHIMNEYPIECE, CLIFFORD'S INN, FLEET STREET, E. C.



PANELING FROM NO. 17
FLEET STREET, E. C.

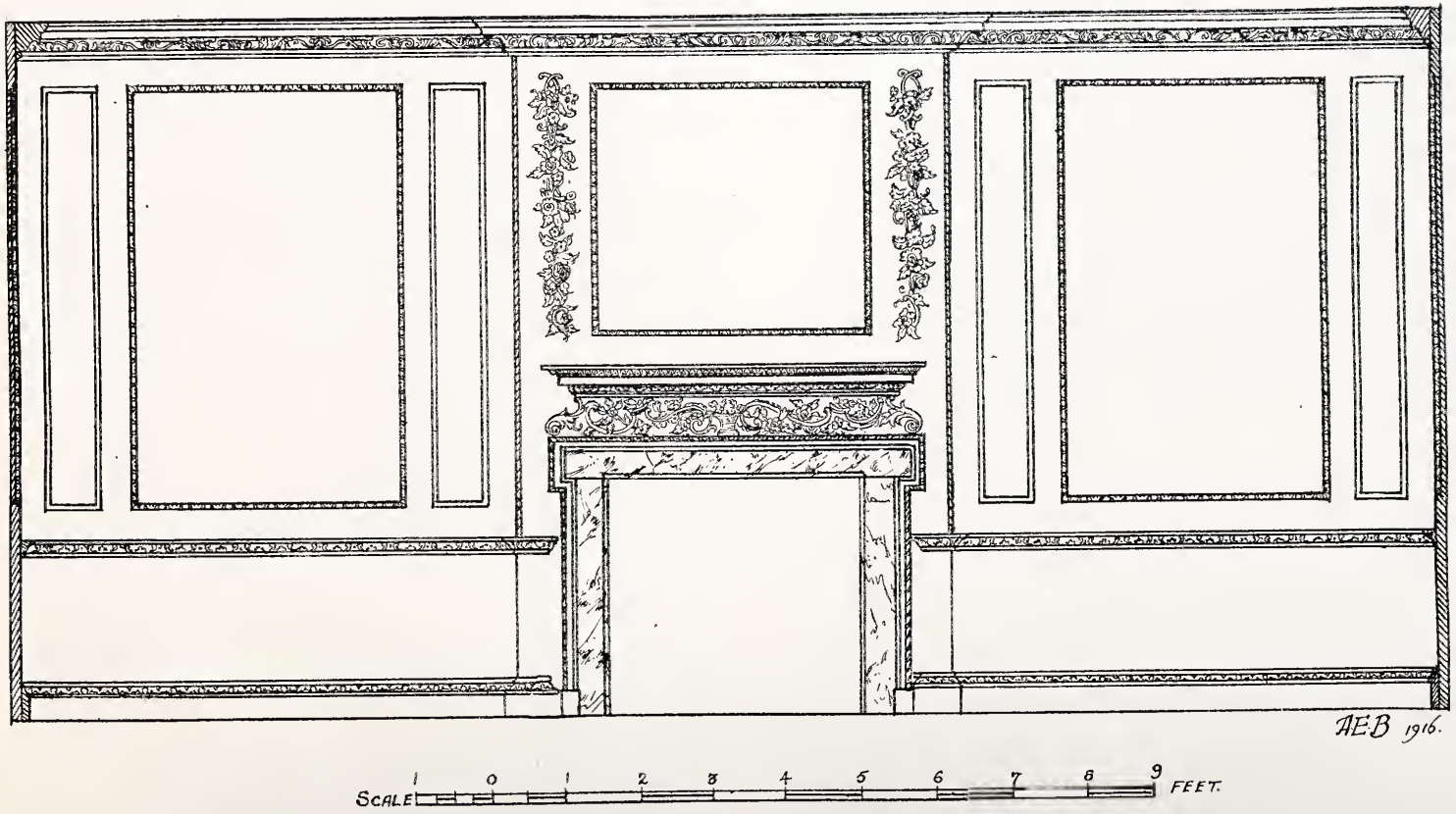


Antechamber.



Staircase to First Floor.

PEMBROKE HOUSE, WHITEHALL GARDENS, 1762. SIR WILLIAM CHAMBERS, ARCHITECT.



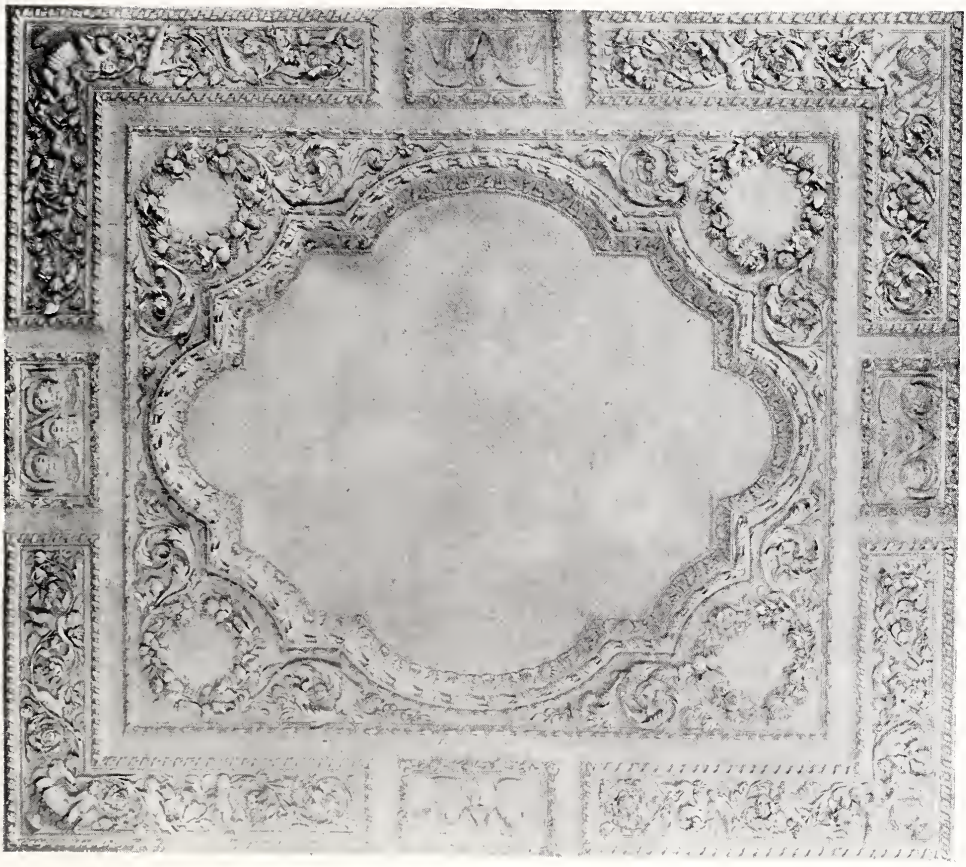
MID-GEORGIAN ROOM,
ABOUT 1740.



SALOON CHIMNEYPIECE,
BELTON HOUSE.



DINING ROOM, BELTON HOUSE. WORK OF SIR CHRISTOPHER WREN AND GRINLING GIBBONS.



CHAPEL CEILING, BELTON HOUSE.

Georgian periods and in some of the work of the time of Charles II. The acanthus leaf was treated in a great variety of ways and of different sizes, while the egg-and-tongue figures in nearly all the periods from Inigo Jones to Adam. The Greek fret is to be noticed in mirrors of the time of George II, and more especially in the work of Sir William Chambers. Subsequently Greek and French features became keen rivals, and upon the introduction of mahogany and ebony a new note of grandeur was added to the larger mansions, as Holkam Hall and other works under the auspices of William Kent, the understudy of Sir Richard Boyle, the Earl of Burlington.

Kent was a Court painter and architect of considerable ability and in his day was considered a great authority on all matters relating to art and dress, being consulted largely by the nobility. He was, incidentally, an earnest student of the works of Inigo Jones and his nephew, Webb.

The division of walls differed little in the several periods, except in minor details, such as the depth of the friezes, the height of the dado and the proportions of panels. These things, however, form the essential characteristics differentiating between the respective styles and giving just those qualities which go to make up successful compositions, about which we hope to have something more to say in a later article.



ENTRANCE FROM GRADUATES' COURT, DIVINITY DORMITORY ON THE RIGHT—CLASSICS BUILDING, UNIVERSITY OF CHICAGO.

Three New Buildings at the University of Chicago

Holabird & Roche and Shepley, Rutan & Coolidge
Architects

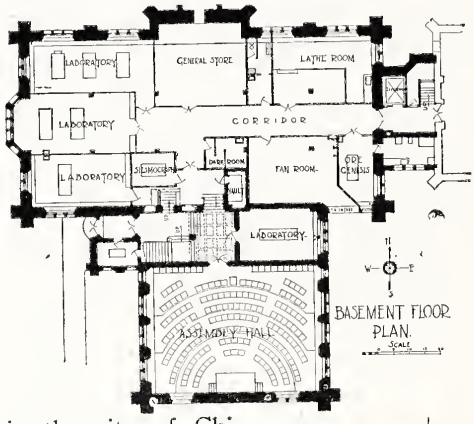
By Peter B. Wight

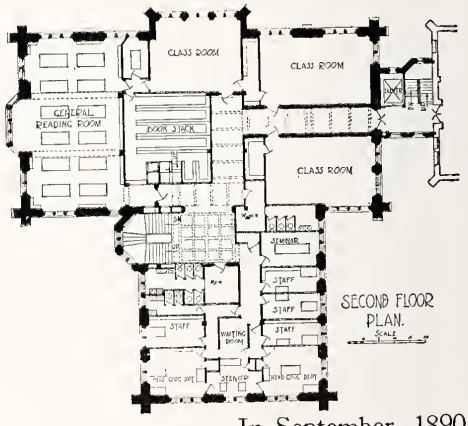
BEFORE any buildings for the new University of Chicago had been erected the committee on buildings and grounds appointed Henry Ives Cobb as architect to the university. His first duty was to lay out a tentative general plan for the location of such buildings as it would be thought necessary to erect, having in view those that might first be needed. The committee then, after discussion with Mr. Cobb, decided that the style of architecture for the buildings should be Late English Gothic. This was some time in 1891. On November 26 of that year, work was commenced on the first building. Since then there have been erected on the grounds north of the Midway Plaisance forty-two buildings, at an expense of $6,700,000, within twenty-five years. In 1891 the grounds comprised about seventeen acres. They now comprise about one hundred acres, located on both sides of the Midway Plaisance, from Cottage Grove avenue, on the west, to Dorchester avenue, on the east, a distance of three-quarters of a mile. The university assets now exceed $35,000,000, with $4,000,000 of the founder's final gift yet to be paid—a total of $39,000,000. The Midway Plaisance, one of the great features of the Columbian Exposition of 1893, comprises the entire block between Fifty-ninth and Sixtieth streets, and is three-quarters of a mile long. While it belongs to the city of Chicago and is under the control of the Commissioners of the South Parks, it is practically part of the landscape effects of the university. In accordance with the general scheme of Lorado Taft for decorating it with sculpture, the trustees of the Ferguson Fund have commissioned Mr. Taft to model, full size in plaster, his group of colossal figures called the "Procession in the Fountain of Time," and the allegorical and more than colossal figure of "Father Time," which, when carved in marble, will stand in the waterway in the center of the Midway Plaisance. This is being done at his studio on the south side of the Midway Plaisance, and is more than half completed.

It may be interesting, as a matter of history, to state briefly how the university came to be what it is. There had been a University of Chicago, with an Astronomical Observatory, located on a piece of ground on the west side of Cottage Grove avenue between Thirty-second and Thirty-fourth streets, running back to what is now Rhodes avenue, which was practically founded in 1855 by Stephen A. Douglas, who presented the land. This university, with its buildings, including the Astronomical Observatory, existed until 1886, when it was overcome by financial disaster, and the buildings have been long since removed. A bronze tablet to the memory of Stephen A. Douglas, and bearing his likeness, designed by Lorado Taft, has been placed in the cloister leading to Leon Mandel Hall, which is one of the most prominent of the present university buildings.

The new university corporation is the result of efforts of T. W. Goodspeed and others to establish a collegiate foundation in Chicago a few years after the failure of the old university. About the same time John D. Rockefeller was interesting himself in the possible foundation of a college in New York or Chicago. The American Baptist Education Society, of which F. T. Gates, of Chicago, was sec-

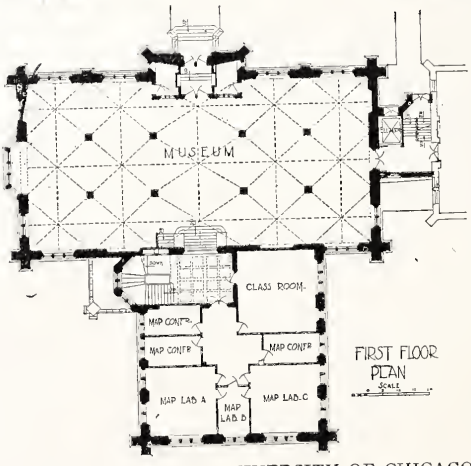
retary, was also studying the problem of a new collegiate institution. In December, 1888, the Education Society approved an effort to establish a well-equipped institution in Chicago. At an annual meeting of the Education Society in 1889 it formally resolved to take immediate steps towards the foundation of a college





president. Dr. Harper served as president until his death, on January 10, 1906. His first effort was to make the institution a university in fact, with all the necessary departments pertaining thereto, to put it on a par with all others in this country. And this he did in concert with his lifelong friend, John D. Rockefeller.

in the city of Chicago. To make this possible Mr. Rockefeller at once subscribed $600,000 toward an endowment fund, on condition that $400,000 be pledged before June 1, 1890. Mr. Goodspeed and Mr. Gates at once undertook the raising of the fund. This was accomplished, and in addition there was secured, as a gift from Marshall Field, of Chicago, a block and a half of ground, valued at $125,000, as a site for the new institution. Two and a half additional blocks were afterward purchased. At the annual meeting of the society in May, 1890, held in Chicago, the board of the society adopted articles of incorporation and a charter for the new institution. It was incorporated September 10, 1890, as the University of Chicago, and at the first meeting of the new board Professor William Rainey Harper, of Yale University, was elected



ROSENWALD HALL, UNIVERSITY OF CHICAGO.

In September, 1890, Mr. Rockefeller made his second gift, of $1,000,000. The condition of this gift was that the Baptist Union Theological Seminary at Morgan Park, near Chicago, should become the Divinity School of the university; and of the amount contributed by Mr. Rockefeller, the sum of $100,000 was to be devoted to the erection of buildings for the Divinity School. Thus it became affiliated with the Baptist denomination, as had been also the old university which went out of existence in 1886. But its management has always been liberal and has imposed no denominational tests upon those attending the university.

The later history of the university is now generally known and need not be detailed here. Mr. Rockefeller continued to make his gifts from year to year, until they now amount to about $35,000,000,

most of which has been for endowment and running expenses. It is no wonder, therefore, that the trustees should in due time have conferred upon him the title of Founder. A very small part of his contributions has been invested in buildings. By the shrewd way in which his many gifts have been made he has not only secured for the university other gifts of money, but has taken care that it should not fall behind in its expenses. He has encouraged an *esprit de corps* in the wealthy people of Chicago, who, since the erection of the Divinity School, have contributed nearly all the money that has gone into buildings. These nearly all bear the names of the donors. The presentation of buildings has been encouraged by the knowledge that, owing to the great permanent endowment of the university, buildings erected by private munificence will be properly maintained. Hence, the principal events in the history of the university for the past twenty years have been the erection of a constant succession of new buildings.

After Mr. Cobb had prepared a general plan of what then comprised the university campus, he made plans for the first building, which was on the line of Ellis avenue, then the western boundary of the property. This building was Cobb Lecture Hall, the gift of Silas B. Cobb, who was in no way related to the architect. Commenced November 26, 1891, it was occupied September 1, 1892. It is now the general office and business headquarters of the university, a handsome gray stone building fronting on the campus and forming part of a long row of attached buildings erected soon afterwards. The exterior is of smooth-dressed buff Bedford stone, which now, like that of all the other buildings, after two years' exposure to the weather, has a light gray color. The committee on buildings and grounds not only decided that all buildings should be in the Late English Gothic style, but that their exteriors should be of this stone. This material has been rigidly adhered to up to the present time, though there has been some variety in the method of dressing it. But it would be hardly right to say that Mr. Cobb had adhered to the Late English Gothic style. His designs for structures to follow Cobb Hall were quite free in treatment and often followed precedents found in Earlier English Gothic. Thus, all of his buildings have roofs with a pitch of at least forty-five degrees, and all also are covered with red clay tiles. He also abjured ornamental battlements in almost every building. Since then red clay tile roofs have been used on all buildings, not only those designed by Mr. Cobb, but those by other architects as well; and I understand that they are now required by the university authorities.

Mr. Cobb designed all the buildings erected before 1900; that is, for nine years. Since then Hitchcock Hall, which is on the northwest corner of the original campus, has been designed by Dwight Heald Perkins; and Emmons Blaine Hall, which fronts south on the Midway Plaisance and occupies the whole front between Kimbark and Kenwood avenues, has been designed by James Gamble Rogers. Since 1900 all the new buildings have been designed by Shepley, Rutan and Coolidge, of Chicago and Boston, except Rosenwald Hall, which was designed by Holabird and Roche. Rosenwald Hall, the Classics Building and the Ida Noyes Hall will constitute the subjects of the present article. They are the last three buildings completed and have been erected within the last two years in the following order of time: First, the Classics Building, called the Hiram Kelly Memorial, finished about two years ago; second, the Julius Rosenwald Hall, completed about the same time; and third, the Ida Noyes Hall, completed last summer.

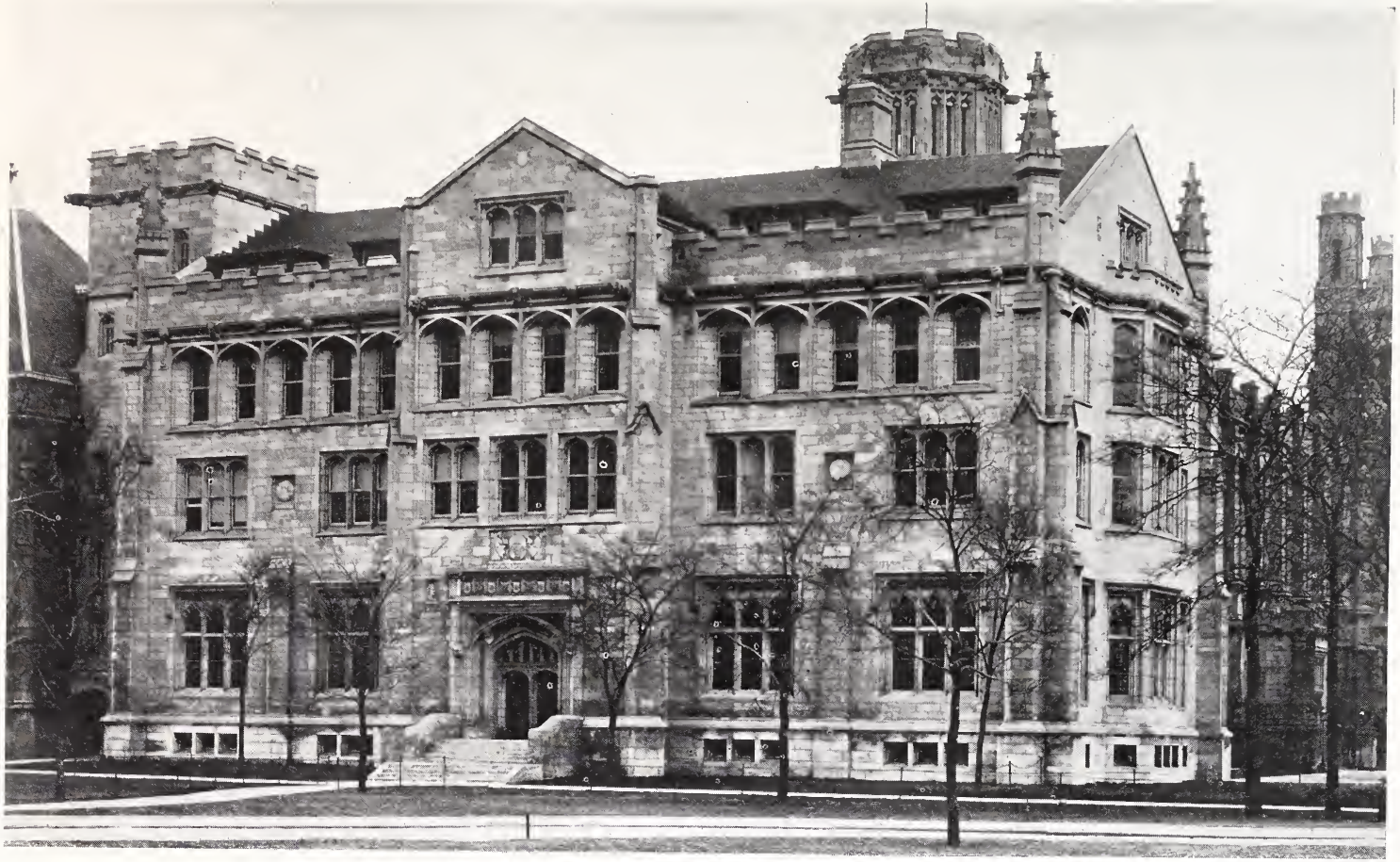
The University of Chicago is remarkable in the annals of American architecture, in that it is the newest and one of the largest of American seats of learning, that all its buildings are in some form of English Gothic, and that all are built of uniform materials. I do not know of any other that is like it in these respects, though the Washington University at St. Louis may come nearest to it. Some of the universities have within a few years adopted the Gothic as the future style of their new buildings, as, for instance, Princeton. The new Columbia Univer-



VIEW FROM THE SOUTHWEST—ROSENWALD HALL, UNIVERSITY OF CHICAGO.



VIEW FROM WOMEN'S COURT, SOUTHEAST, SHOWING WALKER MUSEUM ON THE RIGHT—ROSENWALD HALL, UNIVERSITY OF CHICAGO.



ENTRANCE FRONT, FROM THE NORTHWEST—
ROSENWALD HALL, UNIVERSITY OF CHICAGO.



MAIN ENTRANCE ON NORTH FRONT—ROSENWALD HALL, UNIVERSITY OF CHICAGO.



MUSEUM, ON FIRST FLOOR—ROSENWALD HALL, UNIVERSITY OF CHICAGO.

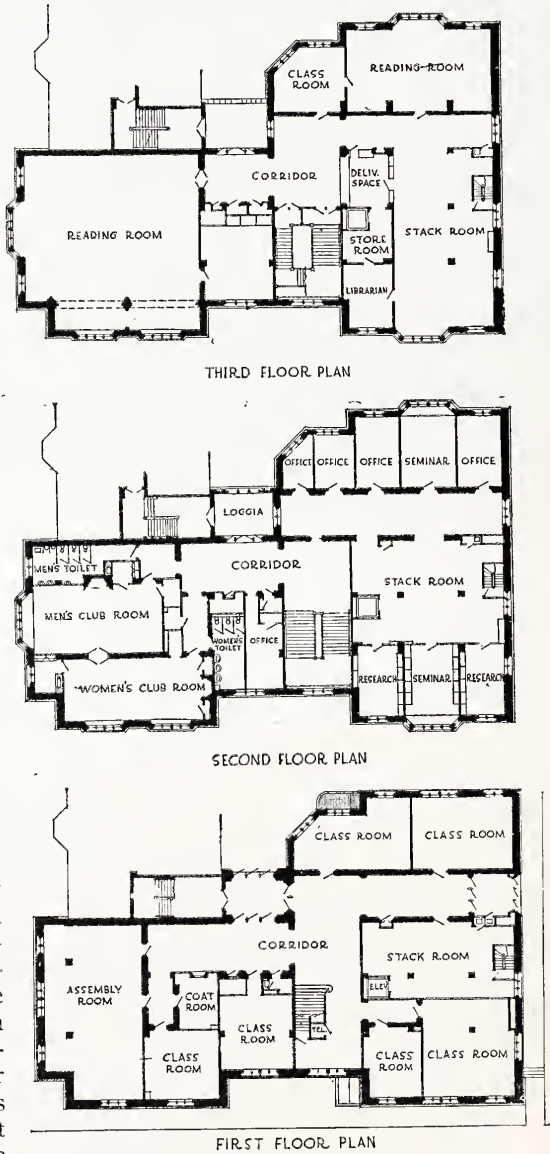
sity at New York, now occupying its third site, had adopted the Gothic for the site that it last abandoned, but adopted a form of Renaissance in its present buildings, except as to its Chapel. The College of the City of New York was entirely rebuilt in the Gothic style, though I have heard of a recent building erected for it, for athletic purposes, which is not Gothic. This college is more uniformly Gothic, if I am not mistaken, than any other except the University of Chicago.

The result of twenty-five years of work by different architects at the University of Chicago in the Gothic style is an interesting study, and it can be justly said that it is not characterized by any blunders. Mr. Cobb's buildings are all good in design, and there are evidences of progress in many of them. The quadrangle surrounded by the Hull Biological Laboratories and the Physiology and Botany Buildings, on the north side of the campus, with its separate gateways north and south, is very impressive. East of it Hutchinson Court, bounded by Hutchinson Hall, Mitchell Tower, the Reynolds Club and Cloister and Leon Mandel Hall, is the most impressive of the groups of buildings, all of which were designed by Shepley, Rutan and Coolidge. They show a decided progress over the work of Mr. Cobb and are consistent examples of English Perpendicular architecture. It is in this group that modern scientific building methods were first introduced in the construction of Gothic buildings for the university, much steel having been used while preserving the style as far as the exteriors and interiors can now be seen.

In the three newest buildings there is a still greater progress in respect to construction, and more independence in details, as will be seen in the illustrations published herewith. There is a modern spirit in all of them, and while the exteriors reflect the influence of the fourteenth and fifteenth centuries upon their design, the interiors are better adapted to the practical uses for which they were intended. Steel construction and the most recent improvements in the science of fireproofing have been employed. This has made it possible to plan the several floors with such differences in the ar-

rangement of rooms as fit them best to their several purposes. It has demonstrated also that the modern spirit will eventually prevail in gradually bringing the university architecture out of the rut of old precedents; possibly, if this progressive tendency continues, there will here be developed from the remote influence of medieval architecture a newer and a better architecture without creating an unpleasant contrast with that which the first board of trustees instituted.

It is pleasant also to be able to say that all the architects who have been employed on the university have worked in a fraternal spirit, and have striven to produce a harmonious whole. There have been attempts to reproduce some of the famous monuments of antiquity which have been more or less successful, principally less; but these may have been due to the influence of superior authority, and it is to be hoped that they are not to be repeated. For anyone who attempts to reproduce King's College Chapel at Cambridge will be open to criticism for trying to do the impossible, and the same may be said in a lesser degree with respect to Christ Church Hall at Oxford.

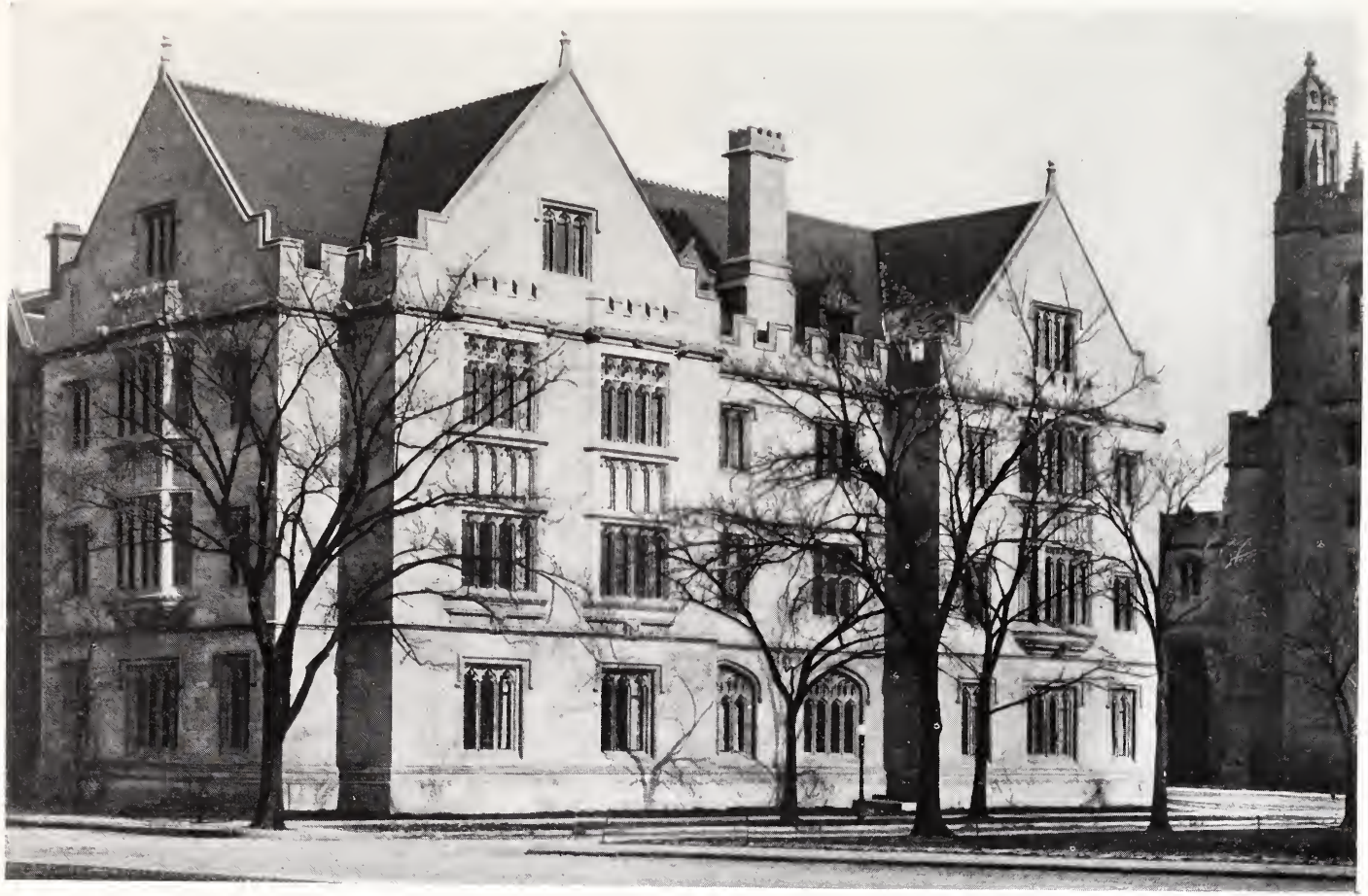


CLASSICS BUILDING, UNIVERSITY OF CHICAGO.

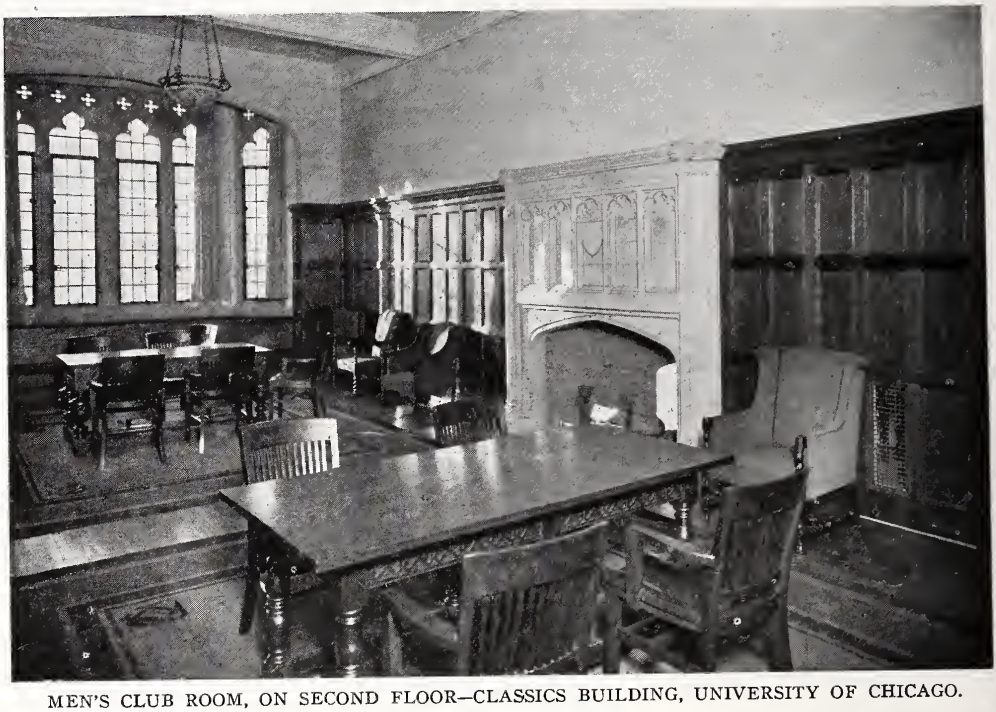
We now come to view the three latest additions to the architecture of the university.

The Julius Rosenwald Hall, completed after designs by Holabird and Roche, is practically an extension of Walker Museum, which it adjoins on its east side. It was presented to the university by Julius Rosenwald as one of the munificent gifts which he bestowed on the city of Chicago on his fiftieth birthday. The cornerstone was laid on June 9, 1914, and the building was dedicated in March, 1915. The problem in design included not only the provision of a building suitable to the purpose of the departments to occupy it, Geology and Geography, but the architectural relation of the new structure to Walker Museum on the east and the Law School on the south. The character and uses of the hall have been clearly expressed in the stone carvings. I am indebted to Professor David Allan Robertson, secretary to the president, for much of the information that follows.

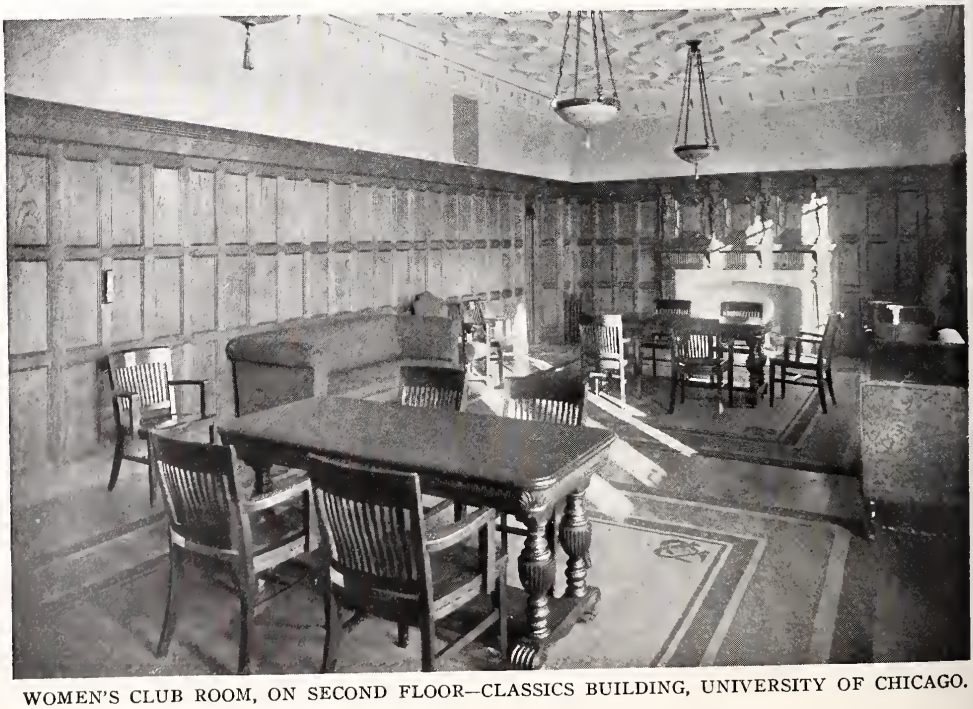
Above the main entrance, in a panel, is the seal of the university, surmounted by a scroll bearing the name of the building. The supporters of the shield are students,



CLASSICS BUILDING, FROM THE SOUTHWEST, HARPER LIBRARY ON THE RIGHT—UNIVERSITY OF CHICAGO.



MEN'S CLUB ROOM, ON SECOND FLOOR—CLASSICS BUILDING, UNIVERSITY OF CHICAGO.



WOMEN'S CLUB ROOM, ON SECOND FLOOR—CLASSICS BUILDING, UNIVERSITY OF CHICAGO.



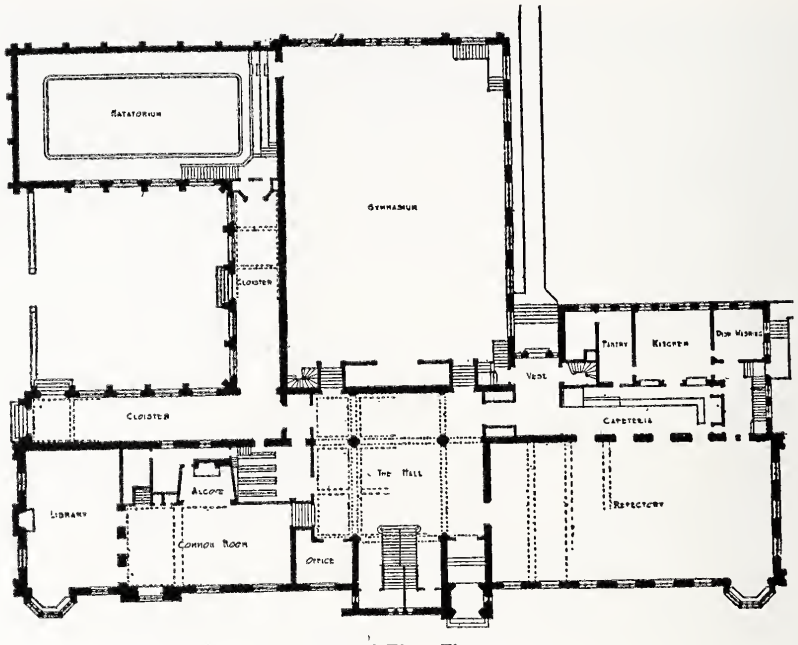
GENERAL READING ROOM, ON THIRD FLOOR—CLASSICS BUILDING, UNIVERSITY OF CHICAGO.

capped and gowned, one carrying in his hand a hammer and the other a theodolite. The cornice of the porch, immediately below, is decorated with carved roses; and the alternate panels of the frieze below it are also decorated with roses on shields, an allusion to the name of the donor, it is said. In a panel in the main wall to the right of the structural portico which surrounds the main entrance door is a relief portrait of Lyell; on the left is one of Dana. On the spandrils of the inner arch forming the doorway are the seals of the State of Illinois on the left and of the City of Chicago on the right. The corbels under the ends of the label molding which surrounds the outer arch have been carved, on the left, with the representation of an aged man casting away an old globe shrunken by time and scarred by volcanic devastation; to the right is the figure of a child spinning a chaotic mass into the form of a globe and sending it forth to find its destiny among the celestial spheres. One is rather startled to see such grotesques on a twentieth century building. It all demonstrates that we are groping our way to imbue our architecture with a modern spirit, but that we lack the experience which enabled the medieval carvers to do such things in a skilful way.

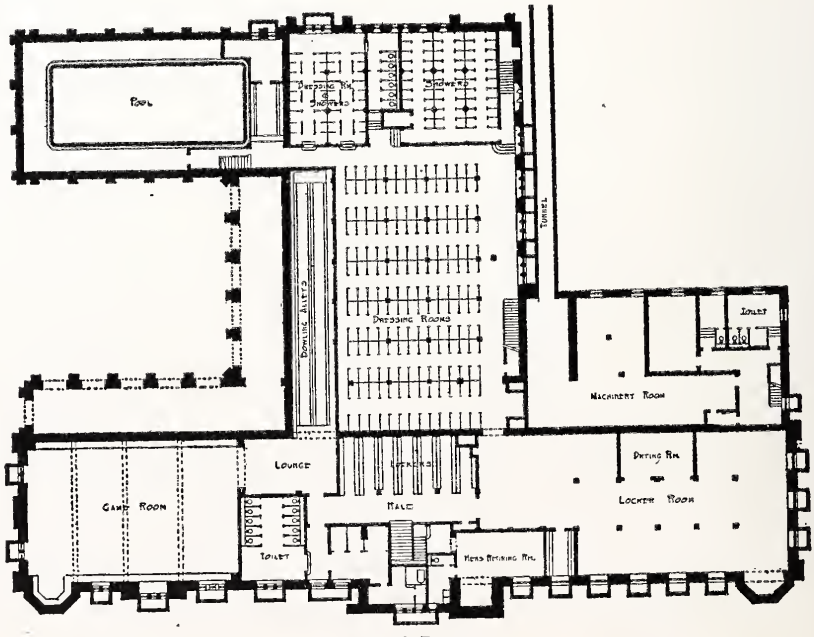
There are gargoyles, too, whether with real water spouts or not is uncertain, but they greatly help the profiles at the angles of the building. All of these lively carvings and many more comprise a list of nearly all the great scientists and explorers who have enriched the world's knowledge of geology and geography.

In the basement, in addition to conference rooms for classes in general geology, is a lecture room seating one hundred persons. The basement provides space also for a dark room and rooms for dynamic geology, mineralogy, physiographic modeling, lathe and section work, a high temperature and high pressure laboratory, and a workshop. Beside the stairs is a seismograph for which there was erected on the solid rock, sixty-two and one-half feet below the floor, a concrete pillar four feet square. The seismograph records will be maintained by the U. S. Weather Bureau.

On the first floor is a museum room,

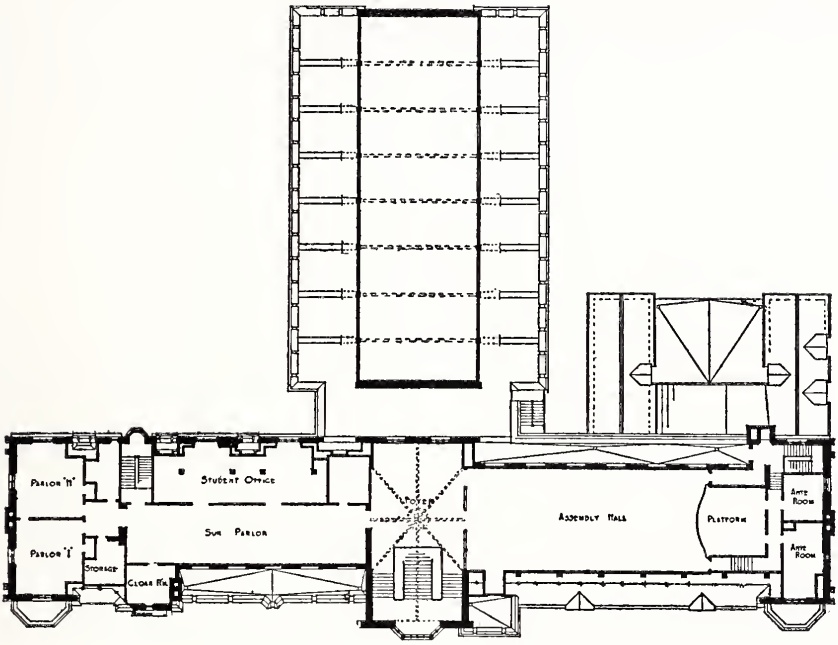


Plan of First Floor.

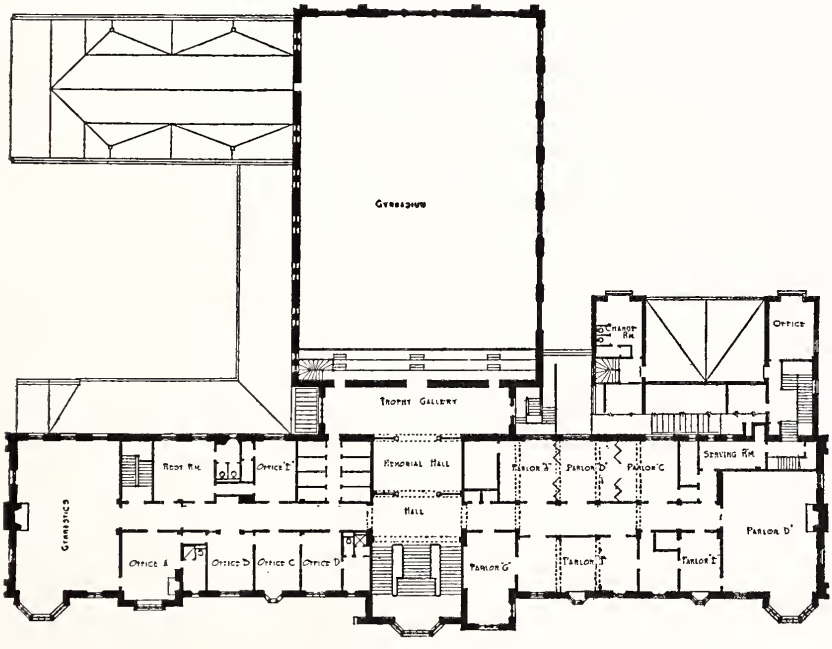


Plan of Basement.

IDA NOYES HALL, UNIVERSITY OF CHICAGO.



Plan of Third Floor.



Plan of Second Floor.

IDA NOYES HALL, UNIVERSITY OF CHICAGO.



IDA NOYES HALL, FROM THE SOUTHEAST, FRONTING ON THE MIDWAY PLAISANCE AND KIMBARK AVENUE—UNIVERSITY OF CHICAGO.

which is a continuation of the museum on the first floor of the Walker Museum, to which it is joined. Forming the vestibule at the north entrance is a carved oak screen in which corbels bear reliefs of the heads of Humboldt, Richtøfen, Le Conte, Powell, Shaler and Sir John Murray, portraits not selected as personal memorials, but as emblems of progress in the earth sciences.

On the second floor are the offices of the heads of departments of Geology and Geography, also a seminar room, class rooms, library and reading room.

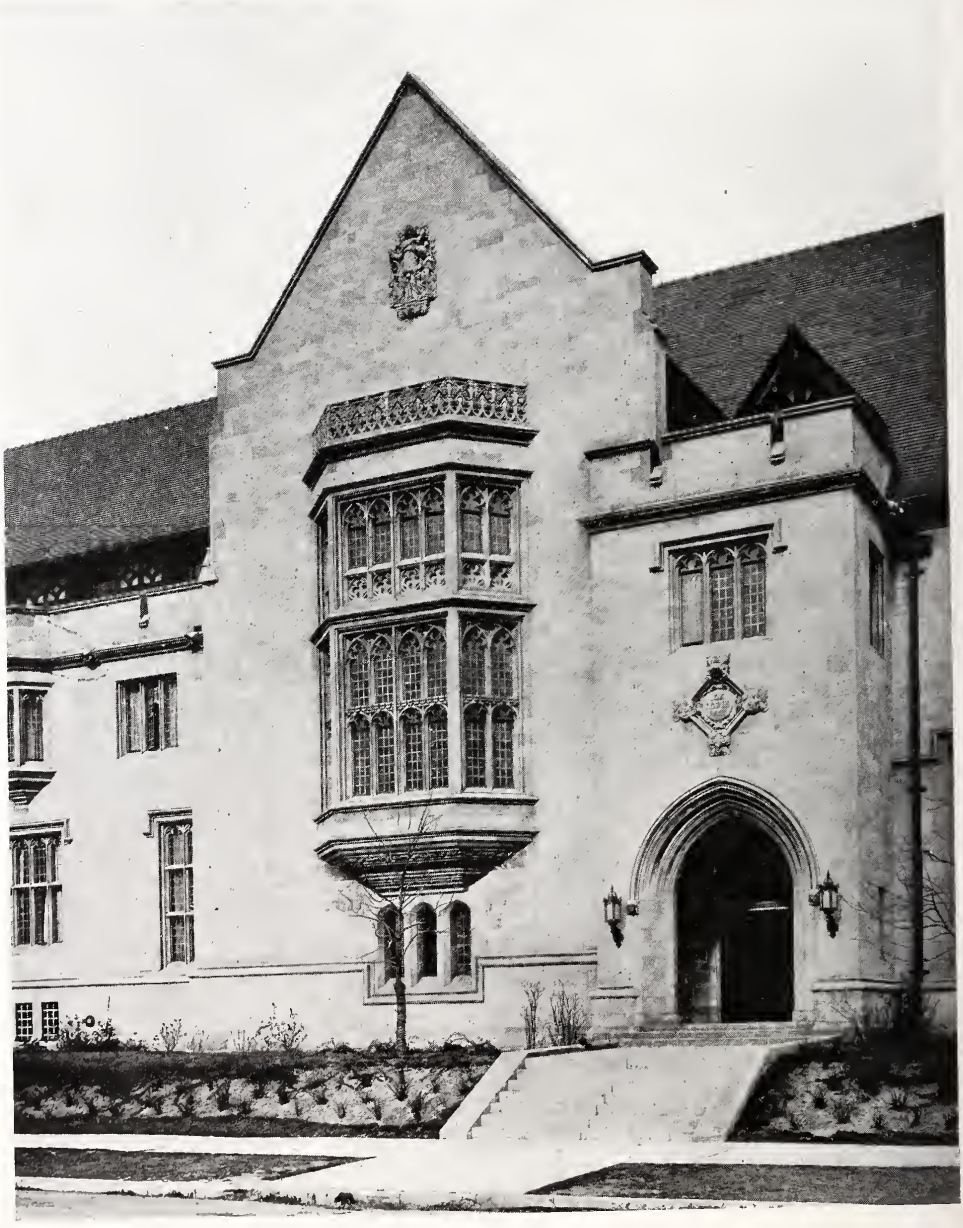
The best view of Rosenwald Hall is from Harper Court on the southwest. This takes in practically the whole of the building on that side and shows the whole height of the octagonal stairway tower. This is carried up above the roof, for the use of meteorological instruments, which are not yet all installed. It is well framed by the darker Law Building, on the right, which puts it only partly in shadow. There is an entrance to the lecture hall, with a vestibule at the base of the tower; and the whole is admirably grouped.

The Classics Building, which forms the southwest corner of the most important group of buildings, is by Shepley, Rutan and Coolidge. It has fronts both on the Midway Plaisance, at the south, and Ellis avenue, on the west. But its main entrance is from the campus, where it adjoins Divinity Hall, one of the first buildings erected for the university. There is another entrance on the east side, but this will ultimately be connected with a building yet to be erected uniting it with the William Rainey Harper Memorial Library. The Classics Building is known as the Hiram Kelly Memorial, and was built from a bequest by Mrs. Hiram Kelly, the donor also of Kelly Hall and Green Hall. Its cornerstone was laid June 9, 1914, and it was completed in March, 1915. It contains a large collection of reference books pertinent to classical studies and general literature, and will be connected with the Harper Memorial Library when an intermediate building, for which the plans have already been drawn, is erected.

On the second floor are offices of professors in the departments of the classical



IDA NOYES HALL, FROM THE SOUTHWEST, FRONTING ON THE MIDWAY PLAISANCE—UNIVERSITY OF CHICAGO.



MAIN ENTRANCE, FROM THE MIDWAY PLAISANCE—
IDA NOYES HALL, UNIVERSITY OF CHICAGO.



TERRACE ON THIRD FLOOR, SOUTH FRONT, SHOWING CAST LEAD VENTILATOR OVER TILE ROOF; THE HALF-TIMBERED CONSTRUCTION IS OF SOLID OAK, FILLED IN WITH HOLLOW TILE AND FIREPROOFED ON THE INSIDE.

group of studies, a men's common room and a women's common room. The women's common room is provided with a kitchenette and with facilities for furnishing luncheons and teas. For large gatherings these two rooms can be thrown into one.

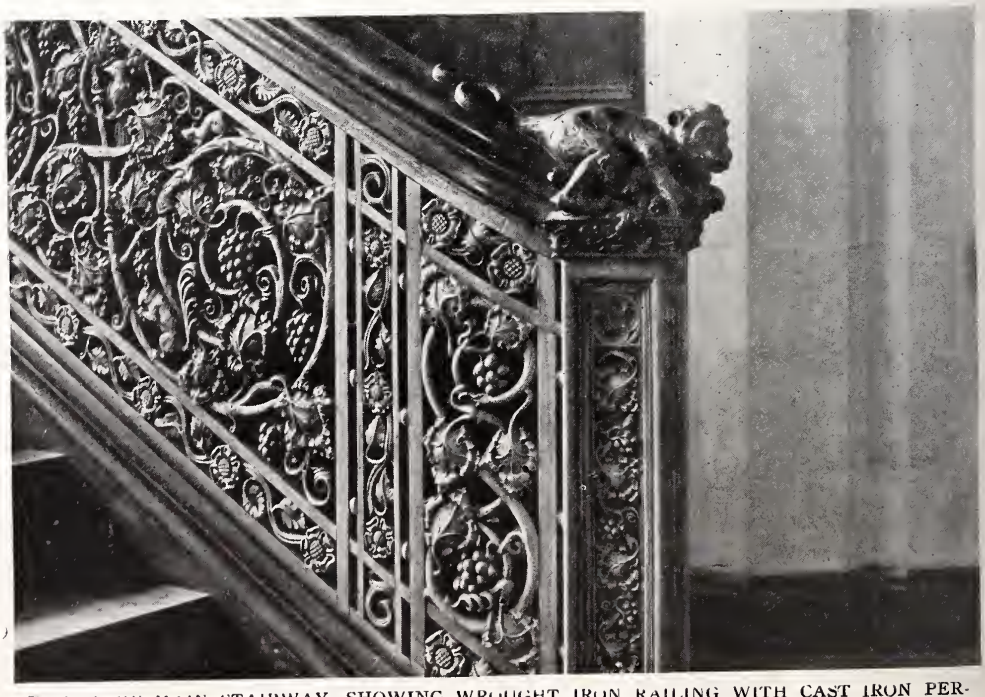
On the third floor are rooms for the Departments of Paleography and Epigraphy, the Department of History of Art, the library adviser, and the main reading room. This room is finished up to the roof. The roof is of fireproof construction, but there is a suggestion of a hammer beam roof under it as a decorative feature. It contains carved wooden escutcheons with the names and crests of Erasmus and Sir Thomas More. There are additional rooms in those parts of the fourth story not occupied by the reading room.

Architecturally, the Classics Building conforms to the spirit of the Harper Library, which was designed by the same architects, and it groups in very well with the contiguous buildings north of it, to which it is attached, and which were designed by Mr. Cobb. The carved stone work is also original and not copied from Gothic sculpture.

At the south front of the block bounded by Kimbark avenue, on the east, and Woodlawn avenue, on the west, stands Ida Noyes Hall, designed by Shepley, Rutan and Coolidge, of which firm Mr. Charles Coolidge is the only living member. The building was designed in the office of the firm at Chicago. Professor Robertson, in a recently published guide to the university, says most happily, referring to the woman after whom it is named: "As a memorial to such a woman—winning in personality, a lover of literature and art, wise in philanthropy, democratic in friendship, skilful in leadership, devoted to her home and her country—Ida Noyes Hall is dedicated to the life of the women of the University of Chicago." It is the gift of Mr. La Verne Noyes. The building, or rather group of buildings—for it comprises the functions performed for the men by the Bartlett Gymnasium, the Reynolds Club, and Hutchinson Commons—is more domestic in its purposes



GRAND ENTRANCE HALL, PANELED WITH ENGLISH OAK—IDA NOYES HALL, UNIVERSITY OF CHICAGO.



DETAIL OF MAIN STAIRWAY, SHOWING WROUGHT IRON RAILING WITH CAST IRON PERFORATED PANELS AND OAK RAIL WITH CARVED TERMINAL GROTESQUE.



COMMON ROOM, ON FIRST FLOOR, WEST OF GRAND ENTRANCE HALL—IDA NOYES HALL, UNIVERSITY OF CHICAGO.



CHIMNEY PIECE IN INGLE NOOK OF COMMON ROOM—IDA NOYES HALL, UNIVERSITY OF CHICAGO.



MAIN DINING HALL, ON FIRST FLOOR, EAST OF GRAND ENTRANCE HALL—IDA NOYES HALL, UNIVERSITY OF CHICAGO.



MEMORIAL HALL, OPPOSITE HEAD OF STAIRS ON SECOND STORY—IDA NOYES HALL, UNIVERSITY OF CHICAGO.

and more expressive in its architecture than most of the English Gothic buildings of the university, and tells its story as an athletic club house to the use of which only the women of the university are eligible. It is therefore a social home for women, with all the appurtenances and conveniences of the three buildings above referred to.

The main portion of the building has a frontage of 240 feet on Fifty-ninth street, which bounds the Midway Plaisance on its north side. Space enough is reserved on the site at the east and west ends for additions or for connecting buildings, as need may suggest. Ground was broken November 14, 1914, and the building was dedicated in June, 1916.

The floor plans published herewith show the general disposition of the basement and three upper stories of these buildings—for they are in fact three buildings, though intimately related—the club and social building at the south, the gymnasium immediately in the rear of it, and the pool or natatorium forming a wing to the gymnasium. The basement floors are almost entirely devoted to the service of the gymnasium and the natatorium. The cloister is a direct entrance to all three buildings, enabling students to enter from the university grounds. The entrance to the cloister is through the private garden, which is surrounded by a wall, not shown on the plans. The cloister garth is intended to be a flower garden.

The main south entrance is through a handsome vestibule going into the hall, the great central portion of the structure. This hall is wainscoted with English oak paneling ten feet high from the floor. The large piers and the corresponding pilasters on the walls are of polished stone from France, the internal structure being stanchions of steel covered with concrete fireproofing. The main stairway to the second and third stories rises from the center of the hall towards the front wall, and its platforms are in the large stone oriel window on the front. This stairway has a very original balustrade. The framework is of hand-wrought iron, the perforated panels are of cast iron, and the hand rails of oak. The hand rail on each side terminates in carved oak grotesques.

At the right of the hall as you enter is the refectory, attached to which are the cafeteria, kitchen and other offices for service. This is a room capable of seating 300 persons. It is eighteen feet high, and is unobstructed by columns; the floors above are supported by steel girders in a very rational but un-Gothic manner. On the opposite side of the hall is the common room, the ceiling of which is built in the same manner as that of the refectory. But still it has been given a Gothic feeling by the paneled oak wainscot which surrounds its walls.

To the rear of the central hall is the completely appointed gymnasium, while beneath it and under nearly the whole building is a bewildering array of dressing rooms, lockers, baths and everything necessary for the physical comfort of the women of the university. The natatorium occupies a building by itself from the basement floor to its own skylighted roof, and it is perfection in all its details.

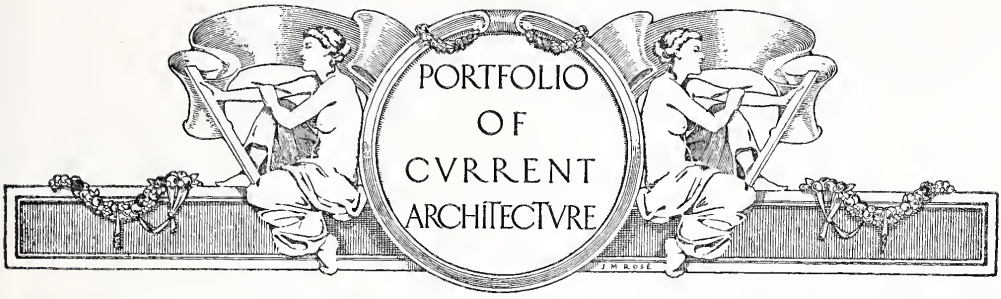
On the second floor, reached by the main stairway, there is a memorial room in the center of the building, and to the north of it a trophy room, which opens upon the spectators' gallery of the gymnasium. There is a Department of Physical Culture in the building, with offices on the second floor. There are also rooms for an examining physician, and a suite for the general director and for members of the instructional staff.

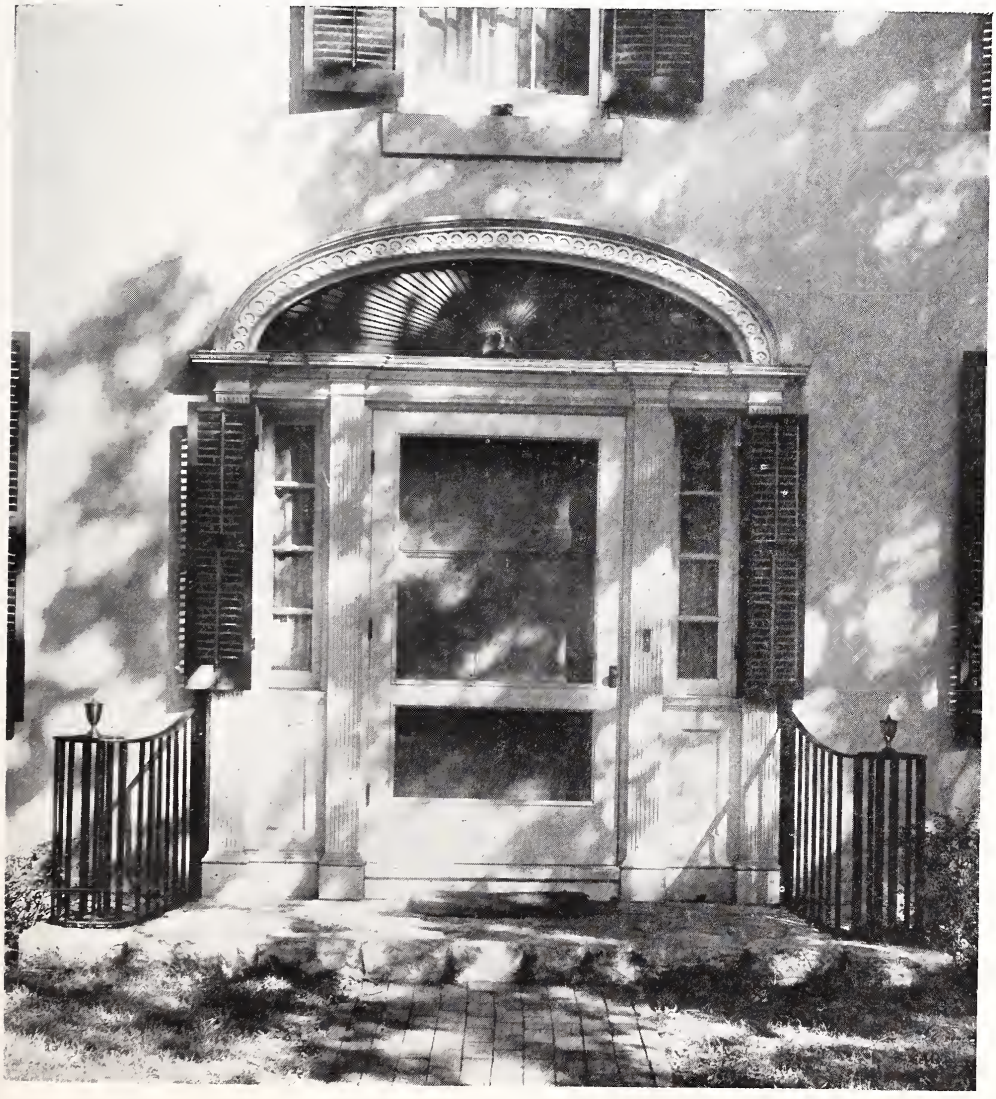
The hall of the third floor is the foyer of the assembly room, which occupies the whole east end of this floor. At the west side is a large sun parlor, with terrace on its south front, above the main cornice. There are also two parlors at the extreme west end of this story, and large lunch rooms for students residing in the city who bring their lunches; in fact, there are vastly more conveniences and comforts provided for the women students in this building than ever were heard of before.

With these remarks, we regretfully leave this great and beneficent institution, filled with impressions of the contributions it has made to architectural art in the nineteenth and twentieth centuries.

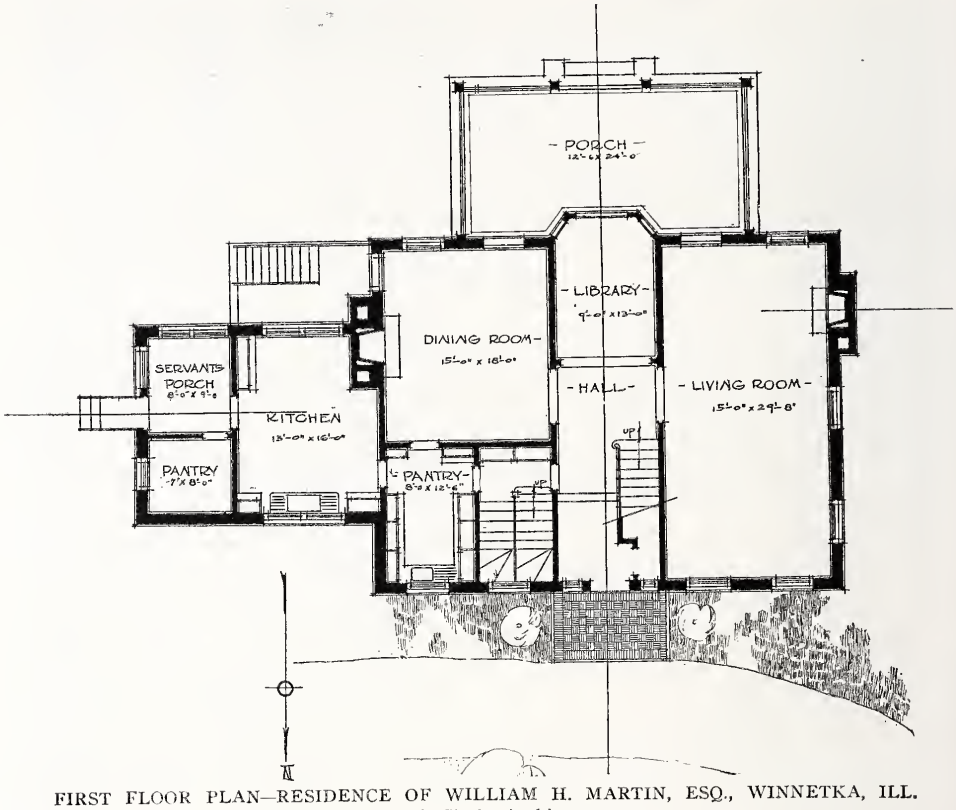


RESIDENCE OF JOSEPH HUSBAND, ESQ., WINNETKA, ILL. OTIS & CLARK, ARCHITECTS.

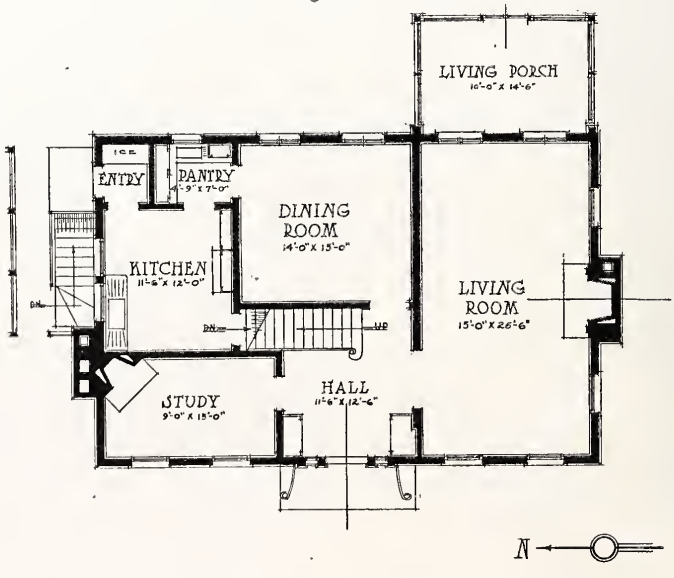




ENTRANCE—RESIDENCE OF JOSEPH HUSBAND, ESQ., WINNETKA, ILL. OTIS & CLARK, ARCHITECTS.



FIRST FLOOR PLAN—RESIDENCE OF WILLIAM H. MARTIN, ESQ., WINNETKA, ILL.
Otis & Clark, Architects.



FIRST FLOOR PLAN—RESIDENCE OF JOSEPH HUSBAND, ESQ., WINNETKA, ILL.
Otis & Clark, Architects.



RESIDENCE OF WILLIAM H. MARTIN, ESQ.,
WINNETKA, ILL. OTIS & CLARK, ARCHITECTS.



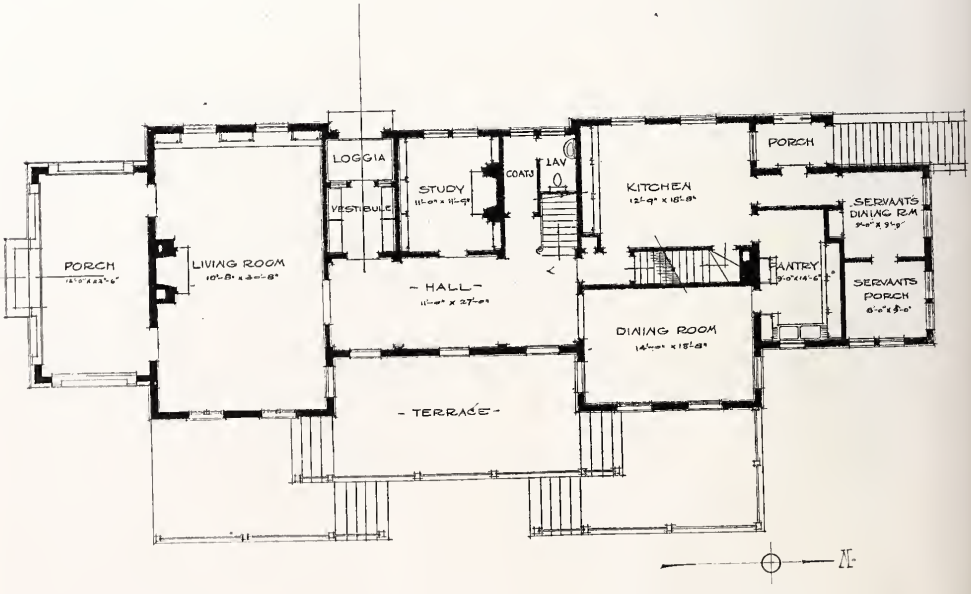
DINING ROOM—RESIDENCE OF WILLIAM H. MARTIN, ESQ., WINNETKA, ILL. OTIS & CLARK, ARCHITECTS.



HALL—RESIDENCE OF DR. F. W. BLATCHFORD,
WINNETKA, ILL. OTIS & CLARK, ARCHITECTS.



RESIDENCE OF DR. F. W. BLATCHFORD, WINNETKA, ILL.
Otis & Clark, Architects.



FIRST FLOOR PLAN—RESIDENCE OF DR. F. W. BLATCHFORD, WINNETKA, ILL.
Otis & Clark, Architects.



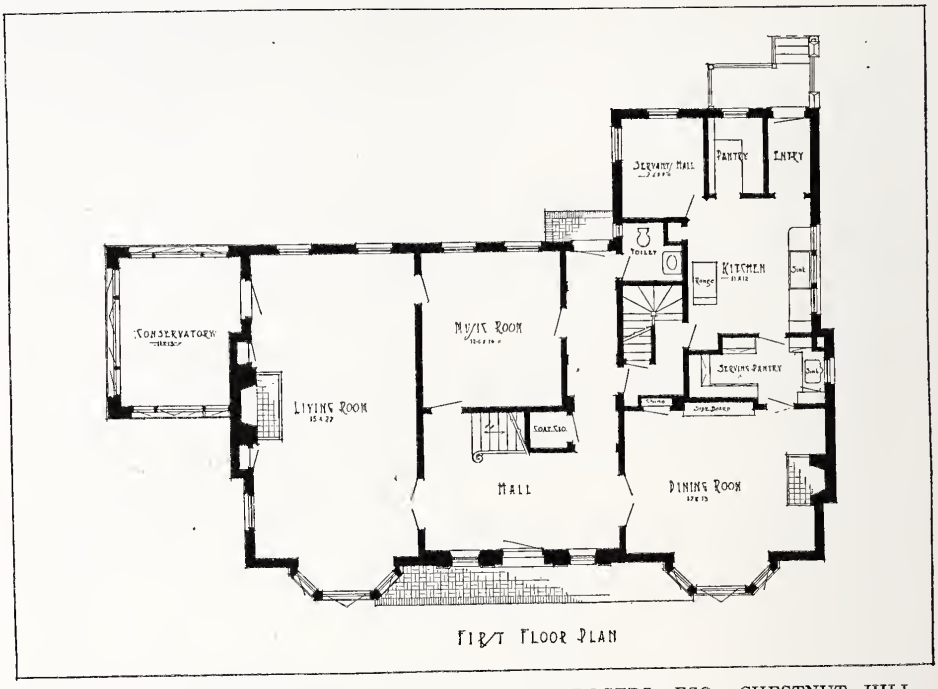
RESIDENCE OF DR. F. W. BLATCHFORD,
WINNETKA, ILL. OTIS & CLARK, ARCHITECTS.



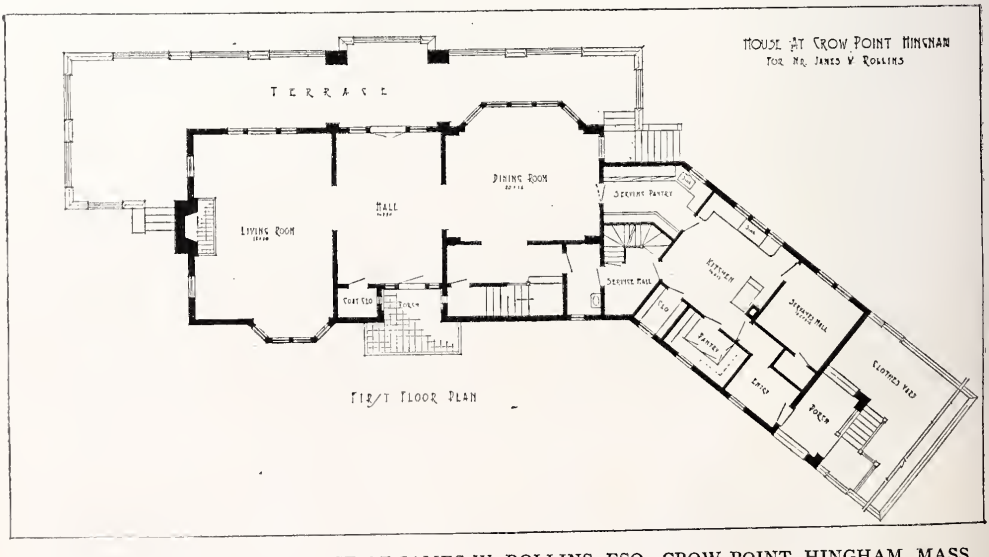
RESIDENCE OF JAMES W. ROLLINS, ESQ., CROW POINT, HINGHAM, MASS. OSCAR A. THAYER, ARCHITECT.



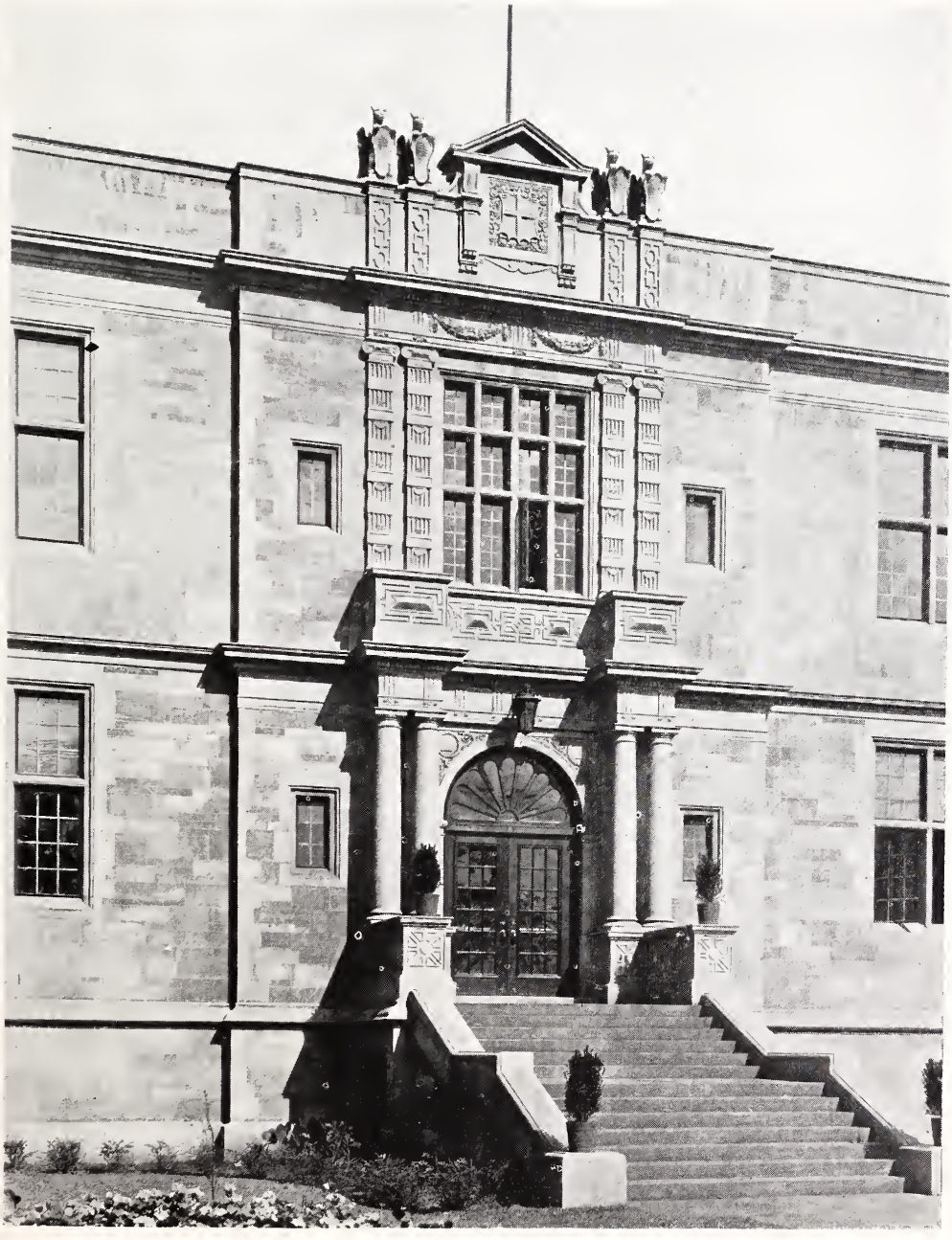
GARDEN FRONT—RESIDENCE OF ALFRED P. ROGERS, ESQ., CHESTNUT HILL, NEWTON, MASS. OSCAR A. THAYER, ARCHITECT.



FIRST FLOOR PLAN—RESIDENCE OF ALFRED P. ROGERS, ESQ., CHESTNUT HILL, NEWTON, MASS.
Oscar A. Thayer, Architect.



FIRST FLOOR PLAN—RESIDENCE OF JAMES W. ROLLINS, ESQ., CROW POINT, HINGHAM, MASS.
Oscar A. Thayer, Architect.



ENTRANCE—THE IMMACULATE CONCEPTION SCHOOL, CLEVELAND, OHIO. HENRY A. WALSH, ARCHITECT.



THE IMMACULATE CONCEPTION SCHOOL, CLEVELAND, OHIO. HENRY A. WALSH, ARCHITECT.



THE PONTIAC, OSWEGO, N. Y.
GEO. B. POST & SONS, ARCHITECTS.



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RESIDENCE OF CLARENCE V. BURRAGE, ESQ., WALPOLE, MASS. KILHAM & HOPKINS, ARCHITECTS.



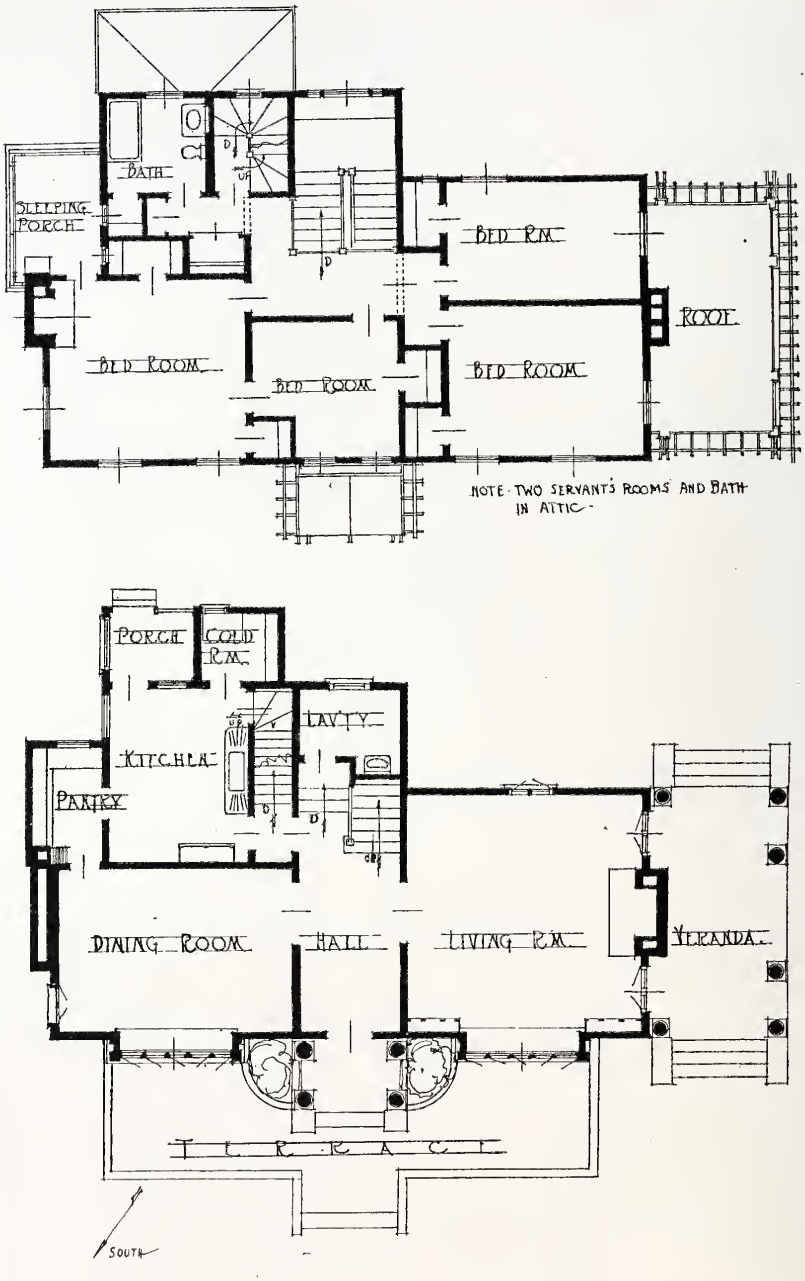
RESIDENCE OF CLARENCE V. BURRAGE, ESQ., WALPOLE, MASS. KILHAM & HOPKINS, ARCHITECTS.



RESIDENCE AND GARAGE OF WILLIAM H. MARLAND, ESQ., BROOKLINE, MASS. KILHAM & HOPKINS, ARCHITECTS.



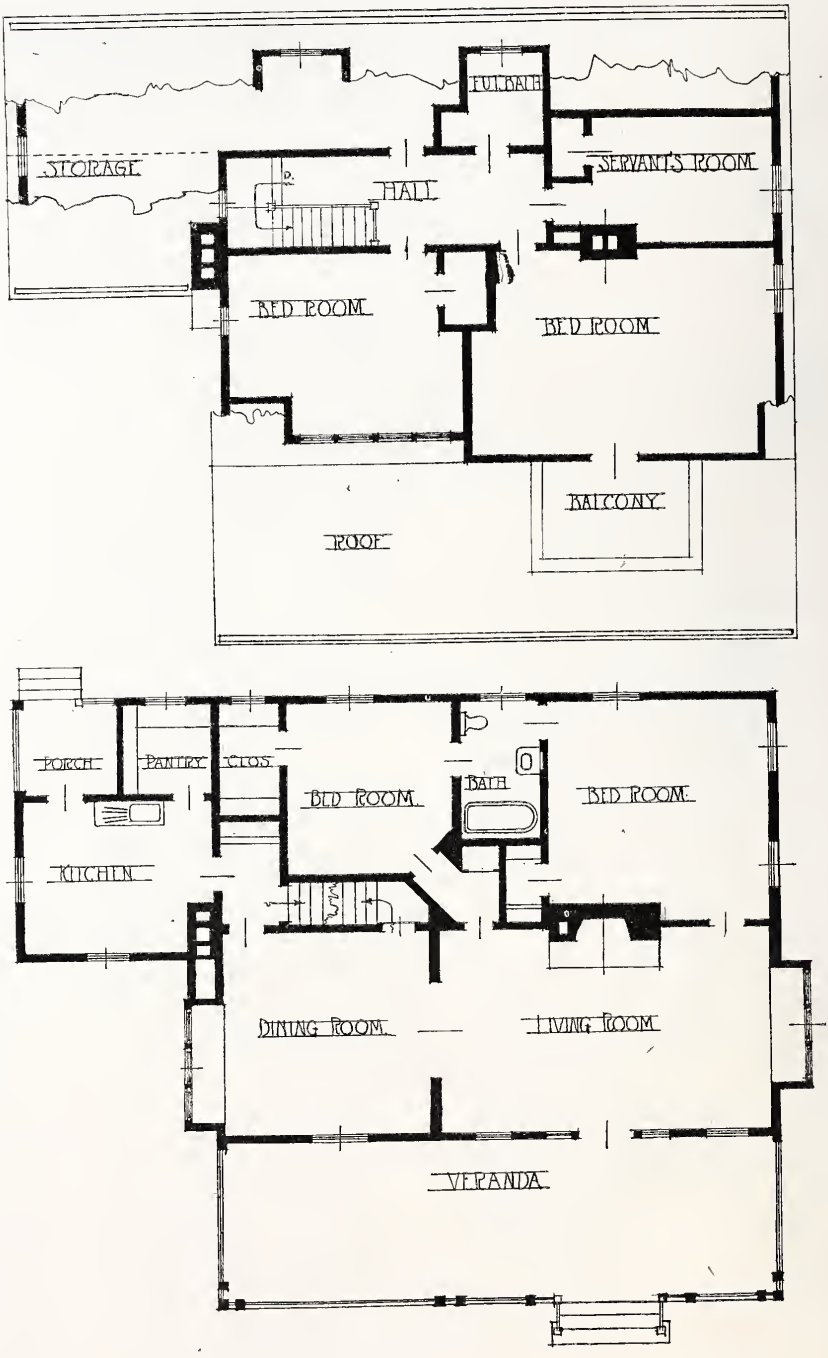
RESIDENCE OF THE REV. WILLIAM M. CRANE, RICHMOND, MASS. KILHAM & HOPKINS, ARCHITECTS.



FLOOR PLANS—HOUSE OF HERBERT E. HEWITT, ESQ., PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.



HOUSE OF HERBERT E. HEWITT, ESQ., PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.



FLOOR PLANS—COTTAGE OF C. V. MILES, ESQ., WASHINGTON, ILL. HEWITT & EMERSON, ARCHITECTS.



COTTAGE OF C. V. MILES, ESQ., WASHINGTON, ILL. HEWITT & EMERSON, ARCHITECTS.



SMALL MORNING ROOM—HOUSE OF MRS. CHARLES PLATT, JR., LAVEROCK, WHITEMARSH VALLEY, PA. JOSEPH PATTERSON SIMS, OF FURNESS, EVANS & CO., ARCHITECT.



STAIRCASE—HOUSE OF MRS. CHARLES PLATT, JR., LAVEROCK, WHITEMARSH VALLEY, PA. JOSEPH PATTERSON SIMS, OF FURNESS, EVANS & CO., ARCHITECT.



LIVING ROOM—HOUSE OF MRS. CHARLES PLATT, JR., LAVEROCK, WHITEMARSH VALLEY, PA. JOSEPH PATTERSON SIMS, OF FURNESS, EVANS & CO., ARCHITECT.



NORTHEAST FRONT—HOUSE OF MRS. CHARLES PLATT, JR., LAVEROCK, WHITEMARSH VALLEY, PA. JOSEPH PATTERSON SIMS, OF FURNESS, EVANS & CO., ARCHITECT.



ENTRANCE—HOUSE OF MRS. CHARLES PLATT, JR., LAVEROCK, WHITEMARSH VALLEY, PA. JOSEPH PATTERSON SIMS, OF FURNESS, EVANS & CO., ARCHITECT.

AN OASIS IN THE BRONX

By MONTGOMERY SCHUYLER

THERE is no more depressing sight to the sensitive and humane observer, even within the confines of Greater New York, than what such an observer sees from the elevated railroad still called the Third Avenue, from the Harlem River until nearly the ending of the road at Bronx Park. Certainly there is no such deplorable stretch of building elsewhere in what we call "the Borough of the Bronx" and ought rather to call Bronxborough, if you insist on spelling it with an "x," though Bronck's Borough it really and historically is. When Jonas Bronck, the pioneer, settled in 1639 upon the banks of the stream that bears a distortion of his name, he could have had as little suspicion that, less than two centuries later, the river would become Rodman Drake's "own romantic Bronx," as that, less than three centuries later, the region named after him would hold something like a hundred times as many white people as in his time there were in all North America. An inaccurate official who endorsed a map of Bronck's holding, now in the New York State Library, unless it was burnt up last winter (1911), "a plot of Bronck his land," is probably responsible for the distortion.

The architecture of the part of the Bronx with which we are engaged is really dreadful. It is all residential or commercial, rather residential and commercial, the stores being under the houses. It is, in fact, simply an extension of the tenement house district of Manhattan. So we cannot expect much of its architecture. We cannot expect that the stream should rise higher than its source, or that the tenement house district of the Bronx should be better than that of Manhattan. What we might reasonably expect is to find it no worse, and in fact it is very much worse. We have also sadly to own that it is worse because it is newer. This is to say that our tenement house architecture is upon the whole deteriorating, in spite of the fact that some of the "new law" tenement houses in Manhattan are positively attractive and show a great advance upon their predecessors. But there are in Manhattan whole blocks, though oftener single houses, if one can call tenement houses so, which are of an atrocious vulgarity. They do not characterize the tenement house district of Manhattan simply because that district is for the most part already built up with the old fashioned plain, cheap, red brick tenement houses. Certainly nobody would think of calling these attractive. But on the other hand they are not repulsive. The cheapest and simplest form of shelter, even though devised by a dull person, cannot become repulsive until it makes a false pretence of becoming attractive. Now, the only false pretence of this kind made in the old fashioned brick tenement house is the projecting cornice of sheet metal. That gives a touch of vulgarity, doubtless, to a class of buildings which would otherwise enjoy the comparative felicity of going unnoticed. And indeed we are so hardened to the tin cornice on the old fashioned tenement house that we hardly notice it, so long as it is confined to the old fashioned patterns. All the better, doubtless, for our comfort, but all the worse for our sensibility. The tin cornice

> hardens a' within
> And petrifies the feeling.

What an enormous gain to our street architecture if the thing, which is manifestly useless and undeniably dangerous, could only be abolished by law, or municipal regulation, as it is in more civilized cities!

But the old fashioned tenement house rises into respectability, the common Bowery lodging house into dignity, when it is compared with these latest products of the speculative tenement house builder. If you do not believe it, take a Third Avenue train at City Hall, or still better at South Ferry, and go north. As you go, note how, with every mile there is a falling off in common architectural decency. It is not only that there are



ARMORY OF BATTERY A OF THE FIRST BATTALION OF ARTILLERY, N. G. S. N. Y., NEW YORK CITY. CHARLES C. HAIGHT, ARCHITECT.

really good and interesting buildings in the Bowery and lower Third Avenue, and that the breed of them dies out as you go northward. It is that, after you cross the Harlem, it is forced upon you that the atrocities which are the exceptions in Manhattan are the rule in the Bronx, and that to the rule there are, you may say, no exceptions. It is the variegation of different bricks against the decent monotony of red brick. It is the increasing bloat of the "trim," the more outrageous and umbrageous protrusion of the tin cornice, which sometimes flowers into a nightmare in sheet metal. Instead of unostentatiously answering their purpose, these blocks and miles of tenement houses yell at you to notice them. The only inoffensive works of man in sight are the backs of the tenement houses. These are mere fields of common brick with windows cut where they are needed and reduced to an even simpler expression than the comparatively respectable tenement houses of the Manhattan of a generation ago, having no pretence of a cornice, no "trim," not even lintels, for the openings are covered with a segmental arch half a brick thick, with just enough rise for stability. But how good the bald backs look in comparison with the fronts! And to think that the fronts might look as well and cost as little, for, cheap as the cheap finery may be, it still costs something. But the proud and misguided owner and builder looks with complacency on his awful front and tells you it is "up to date." So it is. To the shame and loss of the present generation, so it is.

We say there are no exceptions to the terrible rule. It is curious how few the exceptions are, either from the rule that the building of the region is confined to stores and houses, or to the rule that it is of an atrocious vulgarity. There are occasional breweries, occasional icehouses. There is hardly ever an occasional church, and one of the two churches one recalls along the route is neither here nor there, while the other is quite in the worst style of the tenement houses. There are two public buildings. One is the Borough Hall, which is so admirably placed, at least for the view from the railroad, that it is a pity it should not be more worthy of its eminence. It is not so bad in design, having at least a composition, with a triple lateral and vertical division, though by no means worth discussing, even as a design. But the superstructure is of brick painted yellow, for the purpose, one suspects, of giving a job to a favored painter, and the favored painter has done his job so badly that his paint is turning green and scaling off, and giving itself away as paint, besides imparting to the front a shabbiness which is not in the least of a shabby respectability.

Of the other public buildings, the Bronx Court House, it is difficult to speak with patience. It is most absurdly placed, jammed up against the elevated tracks, with no room to provide any foreground or detachment for it, even if it were worth looking at, and were designed with a decent respect to its purpose and its environment. But neither the architect, quite unknown to this writer, nor the architecture are of the expressional kind. The architect has simply adopted an ideal form, the full size of the lot, within which the necessary apartments will be stuffed as they may go with no indication of them on the outside, unless the row of two-story openings running all around the building is to be taken as such an indication, which is of course absurd. There is nowhere in mass or in detail a single happy thought, a single form or feature which can be called the vestige of an architectural idea. And the sad thing is the awful waste. For this ill-placed, ill-designed and altogether absurd edifice is of monumental granite, of the most massive construction, and too plainly has cost an enormous deal of public money, without the possibility of giving pleasure to any human being. What is it Kipling says about the Mormon Temple at Salt Lake:—"The flatness and meanness of the thing almost makes you weep, when you look at the magnificent granite in blocks strewn abroad." It is not worth while giving a photograph of the melancholy object, for, while the photograph would show it as a loud and costly platitude in granite, it could not show the entire absurdity of it with reference to its surroundings.



ENTRANCE—ARMORY OF BATTERY A OF THE FIRST BATTALION OF ARTILLERY, N. G. S. N. Y., NEW YORK CITY. CHARLES C. HAIGHT, ARCHITECT.

One exception there is to the general badness of the building of the Bronx which it were ungrateful to pass over. The school houses are the chief means of assimilating the heterogeneous population which has poured into the borough within the last two decades, and for which these terrible living accommodations are provided. And the school houses are numerous, capacious, and admirably designed, as we have learned these many years to expect from the architect of the Board of Education. Here, if here only, we can honestly hail an advance in the new tenement house district, upon the building of the old. Even here the old school house, though doubtless very stupid, was no worse than stupid. The new school house, as we all know, is positively attractive and in itself a means of education.

It is plain enough to the observer whose occasions take him along the route of the elevated road, that nowhere on earth is there more need of an architectural evangelist whose work shall show that architecture is not a matter of "variety" of unstudied forms, nor yet of the sumptuosity and costliness of material, much less of the false pretence of those qualities, but of the faithful and artistic expression of the structure, and that this may be done in the humblest material as well as in the richest or an imitation of the richest, that even the material of the unpretending brick backs of the Bronx tenement houses may be so compiled as to put the pretentious fronts of those eminences to open shame, and that the substitution of unpretentiousness for pretence ought to be the aim of the future builders of the Bronx. Most fortunately, exactly such a demonstration is one of the most conspicuous objects in the borough. This is the new armory of "Battery A" of the First Battalion of Artillery, N. G. S. N. Y. It is very commandingly placed, upon an elevation which makes it fairly visible from the station of that elevated road which conditions all the building and all the life of this part of the Bronx. No Bronx burgher can help taking notice of it and being impressed by it. Neither can he help being struck by the contrast which it presents to the current building of the neighborhood. The contrast ought to excite reflection in the mind of the speculative builder himself.

The dimensions of the building would alone suffice to make it conspicuous. A building 200 by 300 in area is so unusual in any part of Greater New York as to be sure of attracting attention. These dimensions are necessitated by the purpose of providing a drill room for a field battery. The apartment which serves this purpose is said to be the largest riding hall on the west side of the East River, though it seems that there is one in Brooklyn even bigger. It comprises in effect the entire building, for a narrow fringe of rooms along the west side is strictly subordinate to the riding hall, as are the stables which occupy the basement. A flanking wall of 300 feet in extent cannot fail of making an impression, whatever its treatment, or even if it received no more treatment than the backs of the tenement houses which are so much the most favorable of their aspects. But a quite blank wall of this extent and with no more artistic treatment than is given to those backs, would have an aspect not only of monotony but of weakness. The bald backs, in spite of their so much lesser expanse, look painfully weak because they are so painfully thin. Either a sufficient thickness of wall for stability must be shown in the openings, or else the wall must be reinforced at intervals in order to reassure the eye. Here both devices have been invoked. The walls have visibly sufficient depth, a depth which becomes most impressive and powerful where, as in the arched entrances, the whole thickness of the wall can be, to use the happy technicality of the builders, "revealed." Moreover, there are three pairs of massive buttresses at intervals, and, knowing or conjecturing that the interior is one great apartment without intermediate supports, one assigns these buttresses as the abutments of the huge roof trusses necessary for such a span. Not only is the stability of the long wall put far beyond doubt by these devices, but the brute expanse becomes an ordered mass, an architectural design. For note that these features have

nothing capricious or arbitrary, but are organic and essential, and proceed from the structural necessities of the case. Hence, in material no more rare or precious than the bald backs, being common brick, though apparently chosen for color, and at any rate very lucky in its color—in common brick laid with wide red joints, and relieved in the right places, which is to say the necessary places, the arches of openings, the sill cources of windows, the offsets of buttresses, and the base of the wall, by a sparing introduction of brownstone—the whole arrangement is expressive, rational, significant. Besides the buttresses which guarantee it against outward thrust, the wall is most effectively framed between the terminal masses, the huge square tower at the corner, and the small tower at the other extremity. The intervals between the two buttresses of each pair are occupied with features consisting of four tiers of triple openings surmounted by a relieving arch and a crenellated parapet.

The front, though a hundred feet shorter than the flank, is of a goodly and ample latitude. It is divided between the terminal towers, the outer, as in the flank, much smaller than the huge square mass at the corner to which the whole composition converges and pyramidizes, having a curtain wall withdrawn from the towers at one end by six feet and at the other by eight, and a central feature of some seventy feet wide. This is signalized by what one cannot call a gable, being a series of crenellated serrations of the skyline, rising towards the centre, and indicating the large and low curve of the actual roof. At the bottom of this central portion is a pair of modest doorways, quite out of competition with the depth and power of the flanking and terminal archways. The detail of one of these archways, that at the inner end of the flank, shows the vigor and weight of the modeling, the effectiveness of the archivolts dying into the impost, the effective framing supplied by the buttresses, and the massiveness of the corbelled balcony. The suggestions of "military Gothic" are not overdone, as they are so apt to be in similar erections. They are confined to the crenellations of the parapets and of the centre of the south front, and to the corbelling of the balcony over the archway of the side, a corbelling which might be, though it is not, accompanied with a machicolation in the manner of the mediaeval fortification. These touches of tradition, denoting the purpose of the building are perfectly compatible with the fact that the detail throughout is simply straightforward structural modeling which might have taken the same forms if the designer had never heard of a Gothic castle, and is the logical expression of the materials and the construction employed. The photographs show how admirably consistent, restrained, and effective the architecture of the armory is, and what an effect it produces with the utmost simplicity and unpretendingness of material. But to know how very profitable it is for reproof and for instruction in righteousness, you must see it amid its awful surroundings.

An English Study of the Palais De Justice, Brussels

By Max Judge
Drawing by W. Walcot

IN all forms of art there will always be found examples which the critic must explain irrespective of common tendencies—realizations of the mind which cannot be assigned to any definite position along a recognized line of development. The tendency represented by such a line may suddenly encounter an abrupt break by the creation of a form entirely unsuspected in antecedent thought, in which there has been a reversion, in a kind of atavism, to far earlier forms for inspiration—forms that have not handed down their influence.

In architecture we have a striking example of this in the Palais de Justice at Brussels; to understand such a building we must endeavor to consider it outside the criticism that an unbroken line of architectural tradition has evolved. Hardly any other building, certainly none other of modern times, or Western (as opposed to Eastern) origin, calls so imperatively for a subjective interpretation, isolated as it is from our architectural thought. Such an isolation suggests, in fact, the necessity of translating this idea of architecture into a form of art where we might understand it, where its architectural being might become a reality to be reasoned with. Till then it remains something for conjecture; till then it must fail to adjust itself to our accepted notions of what architecture is, and it is equally impossible to adjust all that the mind has accepted as representative and distinctive, to embrace such a creation. The great examples of architecture are the most easily explained and understood, because they have been evolved from direct tendencies. St. Paul's Cathedral, for instance, does not stand on the borderland of any unexplored field of thought, but is the culmination of an unbroken architectural development. It embodies no architectural phenomena that we are not in a position to appreciate, nothing which English architectural criticism is not able to explain. That is why we understand it, and why we fail to understand the Palais de Justice, because there our criticism fails us. Joseph Polaert takes us back with a shock, across a vast, unrealized gap, to the possibilities of Mesopotamian building, possibilities never hardly more than dimly guessed from what we have known of such an architecture. Had the ruins of some such building as the Palais de Justice been discovered on the Assyrian plain, we should have experienced nothing more than a reasonable surprise at so much further evidence of the stupendous character of the works of these mighty builders of the past. But it is far different to find an actual creation of this very nature entering into the scheme of our own civilization, and to proceed to the appreciation of the intrinsic merit of so marked a deviation from established ideas. It is not merely a question of style, and the formation of a new style, but rather a different understanding of what architecture can attempt.

To take as a motif a building the beauty and interest of which lie for us in its unique character, outside our own architectural sphere—a building, say, like the Táj Mehál—must seriously affect the architectural tradition of a nation; and in a measure the Palais de Justice, based as it seems to be on some lost masterpiece of Assyria, must be regarded as violating an essential canon, and in so doing as achieving a daring that is denied greater works —greater, that is, in so far as they conform to what is accepted as right.

This line of thought has been prompted by a dimly recalled impression of one's actual first view of the structure, and by

the personality of the building conveyed by Mr. W. Walcot in a composition which seems to ignore deliberately all that other buildings may express. The artist has been concerned with the Palais de Justice, and that only, absorbed by his subject as a portrait painter might be, and he actually achieves for us, as far as is possible, that translation from sphere to sphere which we have tried to indicate as essential to the proper understanding of the building. He succeeds in so far as we are led to forget architecture as such, and so on to indefinite musings called up out of the past by vague expressions of still vaguer things. The emotions aroused by architecture are due to tangled associations of time and place: the Palais de Justice seems to suggest an intangible affinity with something beyond our dimensions. There is some quality in Mr. Walcot's drawing commensurate with the scale of the building; the minute treatment of the base, for instance, tends to reproduce something of the sensation actually experienced by the eye in its futile attempt to take in comprehensively an overwhelming height, an attempt that dissolves into an Assyrian, Babylonian, echo in which awe and antipathy never quite cease from conflict.

Photographs seldom prepare one for the actual effect produced by a building; the first impression of the Palais de Justice is one of numbness, as though one has been confronted with some unmeasurable object beyond the sphere of one's emotions, some unknown vastness suddenly known. How correlate that to our conscious appreciation of an architecture which has never seemed to be beyond us, or anything but a part of our ideas!

The architecture achieved here, whatever it be, is such as to remove it from all else; it must ever fail to come into relation with its surroundings, or to express the inherent nature of a city. It is an estranged building, which can never exercise that tutelary genius over the Rue de la Régence, the Rue des Minimes, or the Place Polaert, which the precincts of St. Paul's owe to Wren's genius. And it is not to be expected that sentiments akin to those we feel for St. Paul's are to be evoked by this stupendous achievement of Polaert's. Has any other European capital a building so estranged? Of the Palais de Justice a French critic has written illuminatingly: "It rises above the town, its gigantic masses piled up to the height of one of the hills with which the soil of Brussels is studded, and, seen from the surrounding country, appears as the advance guard of some city of Babylon. In fact, it dominates the panorama so completely that one sees nothing but it at a certain distance, and the houses which unfold themselves at its feet diminish to such an extent as to become nothing more than the dwellings of a simple, straggling, market town. . . . The Palais de Justice, indeed, whether it be studied at a distance, across the rain-charged mists, or under brilliant sunshine, or whether one examines it closely, forms, with its titan-like entablature surmounted by pillars, hollowed with porticoes, notched with staircases, an architecture one might believe to have been revealed in the clouds of an apotheosis."

Of a building of this nature mere dimensions tell us little. From the low-level pavement on the northwest the summit of the dome rises some thirty feet higher than the top of the cross on St. Paul's, but the effect is of an even much greater height. The superimposed platforms fail the eye, which has to carry depths, gauge heights, jump receding planes, in such bewildering complexity that by the time it arrives at the four colossal statues that brood over the city around the final colonnade below the dome, it is out of focus.

The drawing to which this study must be considered as commentary shows us the great entrance portico, on the axis of the Rue de la Régence. Looking up this thoroughfare from the Place Rogale to Place Polaert in front of the entrance portico, one gets the most easily negotiable and yet the most remarkable view of the building. But it seems actually no nearer to one's understanding than the distant mark it sets over Brussels from the Lion Mound at Waterloo.

The portico is sixty-six feet wide and 114 feet high; the colonnades on either side are three columns deep, set with great staircases. Within the portico a



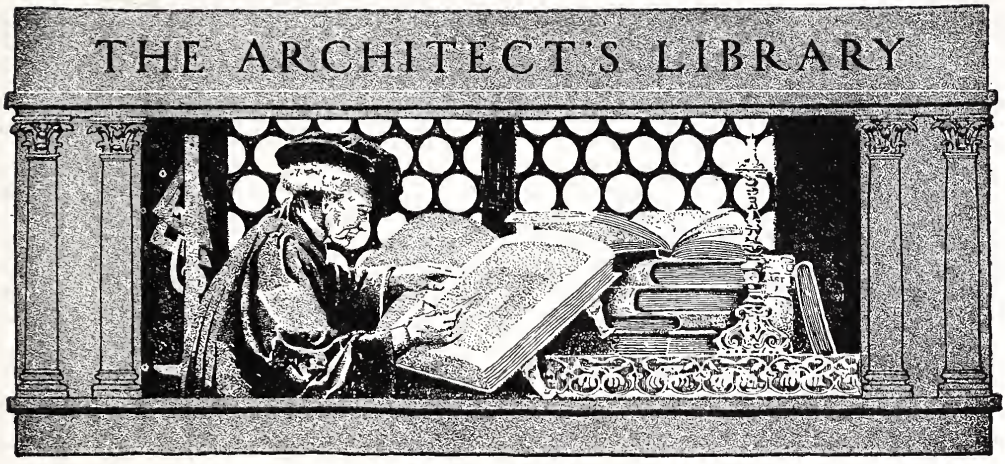
PALAIS DE JUSTICE, BRUSSELS.
DRAWING BY W. WALCOT.

great bronze door opens on a large vestibule which leads directly to the Salle des Pas-Perdus, the most remarkable feature of the plan, and of which its rather fantastic nomenclature tells us much more than could mere figures. Suffice it to say that there is an area something like 300 feet long and 130 feet wide, and above us 300 feet of space below the great dome. From the upper floor all this appears still more formidable; one gazes into vacuity.

Ignoring some detail, it is not necessary to do more than refer to ancient Assyria for the prototype of the Palais de Justice; but when we come to contrast different conditions, certain criticisms become inevitable. We have a building in which portico and colonnade seem to alternate, and in which at every fresh superimposition there is a fresh opportunity for deep shadow. Shadow is distributed throughout the whole building, as if it had been the architect's motif. Such a motif could well find expression on a southern plain, in a building exposed to a relentless glare, in the deep recessed porch and narrow window opening. It is perhaps hardly realized at times how small an opening will suffice to light an interior if there be brilliant sunlight. Southern buildings need verily to be "stopped down" like the lens of a camera under conditions of intense light, and it is hardly possible to provide too much shade. But how different such a tendency becomes in the north! In that apotheosis suggested in the quotation given above it might be assumed that the building were but duly protected from the light of all the heavens; but coming down to earth, to the not over-relieved greyness of the Belgian capital, we are forced to the conclusion that the interior is seriously over-darkened—an architectural sacrifice in which expressions lose their true meaning and point to a bad architectural economy.

It is hardly to be wondered at that the architect did not live to see his conception completed; the wonder is that it should ever have been completed. The building was commenced in 1866 and was inaugurated in 1883. Polaert died in 1879 at the age of 62. His other work in Brussels includes the Colonne de Congrès, the Church of Sainte Catherine and the Théâtre Royal de la Monnaie, but we cannot point to any work of his that can be said to give any suggestion of what his genius was eventually to evolve.

In the projection and completion of an enterprise like the Palais de Justice there is food for much comment, and it is impossible to ignore the influence of the late King Leopold in this connection. Some profess to see in the building the personification of an autocrat, a symbol of oppression; certainly it is easy to perceive the expression of a will that would recognize no obstacle to the fulfilment of a thing once instigated. And it is just as certain that without such a power behind him no architect could ever hope to succeed in so gigantic a project. No mere government could stand him in the same need. The King's approval of the plans was not only sufficient to carry the building through its preliminary stages, but was a guarantee that those plans would be completed; no one perhaps realized to the full all that Polaert had conceived, and the building must have assumed a more and more stupendous character to those who had to find the enormous sums which it swallowed up. The more colossal in its development the edifice that was dawning upon them, the more inevitable was the expenditure. Polaert had opportunities of realizing his ambition that have been granted to few in modern times, and the result is that Brussels is possessed of an edifice which easily eclipses anything now standing. It is a lasting monument to the genius of its architect, but it is something more. Whatever its position as architecture may come to be estimated at, it will represent an horizon reflecting the largeness of spirit, the grasp of big things, which characterized King Leopold. Great architecture, great art in any form, calls for not only great artists but great rulers, and there is a scale of mind that is explained or misunderstood according as we make or do not make allowances for tendencies, which, in the case of anything petty or mean, would be adjudged, and rightly so, as distortions and shortcomings. Without her emperors the grandeur and scale of Rome were not.



BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

Part IV.—The Minor Arts (Continued)

WE cannot too highly commend Mr. Frederick William Hunter's book on *Stiegel Glass* (imperial octavo; pp. xvi+272, with 12 plates in color from autochromes by J. B. Kerfoot, and with 159 halftones. New York; Houghton, Mifflin and Company; 1914. $10). This is in our estimation a praiseworthy example of the unstinting thoroughness and care which should characterize all studies in the Colonial field. Mr. Hunter has selected for his researches a field burdened with controversy, uncertainty and limiting tradition, and he has gathered together a vast store of facts about the eccentric glass designer whose name has as a result come to be identified with the whole span of the embryonic period of the glass industry in the United States. The author related in interesting fashion the facts concerning the whole career of Baron William Henry Stiegel, that "romantic figure, who in the old days rode post behind eight white horses across central Pennsylvania, with horns blowing and bands playing," his simple beginnings, his successes, his ultimate failure and imprisonment for debt, the founding of Manheim and the experiment of Wistarberg, both well known to students in this field, and in the end the apotheosis of "the Baron" in the minds and even in an annual festivity in the district in which he attained his fame. There is also detailed description of many works ascribed to Stiegel, a study of the general characteristics of his special type of workmanship, his materials and methods. To bring his study into intimate connection with the general field of glass making in this country, the author has added chapters on "Early Glass Making in America." The book is in a definite sense unique; nothing of like quality has yet appeared in the province of the minor arts of our early time. It is admirably illustrated, and a work of exemplary excellence in treatment throughout.

As we go to press, an excellent work by Harold Donaldson Eberlein and Abbott McClure, entitled *The Practical Book of Early American Arts and Crafts* (large octavo; pp. 339, ill. Philadelphia; The J. B. Lippincott Company; 1916.

$6) comes to hand. This volume admirably maintains the standard set by other studies whose titles begin with the words "practical book" issued from time to time by these publishers and previously noticed in these columns. We recall *The Practical Book of Period Furniture* by the same authors and *The Practical Book of Garden Architecture* by Phebe Westcott Humphreys; in the same series have also been published C. Matlack Price's *Practical Book of Architecture* and Dr. G. Griffin Lewis' *Practical Book of Oriental Rugs,* while an additional volume by Eberlein and McClure, entitled *The Practical Book of Interior Decoration,* is in preparation. The whole series is characterized by thorough study and careful production, and each title in turn presents a distinct contribution to its selected field. All of these works have, as their names indicate, a predominantly practical viewpoint; they are not merely historical or critical but rather stylistically descriptive and analytical. The authors do not hesitate to introduce drawings, especially line drawings, where needed; and they are careful to spend adequate time over definitions, types of construction, characteristic motives, structural difficulties and expedients, and modes of manufacture.

It is to be fully expected that the author of *The Architecture of Colonial America* should be conversant with the details of our early architecture, and that, therefore, he should be able to place his minor arts in their original and true environment; repeatedly we are made aware in the pages of the present work of this broad knowledge of his field—from stone carving to silver spoons, from decorative copper work to hand block printed wall papers—gained by dint of painstaking research and continued delving among works and books. All of the early American arts and crafts are dealt with; glass, majolica, metal work in iron, brass, copper, lead and tin, decorative needlecraft, domestic and ecclesiastical silver, pewter, pottery, painting of household gear, decorative weaving, printing on fabrics and paper, wood work, stone carving, even early portraiture and allegorical painting, in the Colonies receive attention; and a special chapter on early American lace, individually contributed by Mabel Foster Bainbridge, likewise forms an essential part of the discussion. All of these chapters are profusely illustrated both by separately inserted plates and by drawings and cuts in the text. Individual features of interest attract our attention at once; notably, by way of example, the list of old silversmiths, which includes their places of activity and wherever possible their trademarks; also the attention given to the arts of the needle, quilting, embroidering and lace making.

While, of course, so general a work cannot vie with volumes devoted to individual fields, such as John Henry Buck's excellent study of *Old Plate* noticed in preceding paragraphs, it does, on the other hand, offer the most complete comprehensive study of American crafts that has yet appeared. It is equaled by no other volume at present available. Although its context has been well covered, in word and picture alike, in the two works by Mr. William Alden Dyer already discussed, the workmanship of the volume as well as its typography and general character may be fairly said to be far in advance of that manifested in any general publication in its field issued to date; in fact, with the exception of an occasional work like Frederick William Hunter's *Stiegel Glass* it may be said to excel the majority of works devoted to individual arts and crafts. In the same sense that *The Practical Book of Period Furniture* by the same collaborators assumed at once a position of importance among works devoted to the mobiliary field, so also *The Practical Book of Early American Arts and Crafts* will be assured of similar attention at the hands of students, collectors and historians alike.

Above all, this volume serves well to portray the variety of design and type that characterized the work of the founders of the nation, how many changes they rang in a dozen media and in a round score of crafts, how well they knew the need for dignifying and making attractive for the eye as well as expedient for the hand the host of objects of mere utility that entered into their daily lives.

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*Note: The references in this section, concerning the various minor arts, must necessarily remain incomplete, chiefly because of the somewhat popular character of many publications in this field.



Competition for the Parliament House at Canberra.

The Australian Government announces the resumption of the architectural competition to select the architect for the Parliament House in the new capital city of Canberra. This competition was opened in June, 1914, and suspended in September, 1914, owing to the war. It is now reopened on the original conditions to all friendly countries (enemy subjects not being eligible), the date for receiving drawings being extended to April 30, 1917, at London and Melbourne.

Programmes can be obtained by application to the High Commissioner for Australia, 72 Victoria street, Westminster, London, or to the Works' Departments respectively of the British Dominions, or to the British Embassies at Madrid, Paris, Rome, Petrograd, Stockholm and Washington.

Outline sketch designs only are required. Eight prizes, aggregating £6,000 are offered, the first being £2,000. An international jury of the following architects are asked to make the awards: George T. Poole, of Australia; Sir John J. Burnet, of Great Britain; Victor Laloux, of France; Louis H. Sullivan, of the United States of America, and Eliel Saarinen, of Russia.

W. B. Griffin,
Federal Capital Director of Design and Construction.

A Beautiful Banking Room.

From time to time works of architecture appear which take their place in the history of art as distinct creations standing entirely by themselves and by their own perfection eliminating all comparison. For example, there can be no comparison between the Parthenon and the Táj Mehál, nor can there be any balancing of the beauties of the Strozzi Palace and the Chartres Cathedral. It is as with the different flowers; one man prefers the lily and to another there is greater charm in the rose. The woodland violet has not the splendor of the orchid; each of them is a lovely creation, but they are as impossible of comparison as are the clear note of the morning thrush and the splendor of the setting sun.

Now, all of this may seem a very grandiose prelude to a few words expressing one's satisfaction with a contemporary work of art; but how else can one convey the depth of one's appreciation? The architects and the painter who together produced the beautiful banking room of the Guaranty Trust Company, at Broadway and Liberty Street, had no need of another master-work to place them among the great designers of these times. But in the interior of the building for the Brooklyn Trust Company, at Clinton and Montague Streets, Brooklyn, they have created a room of such complete and satisfying charm as to make one forget the beauties of the Guaranty Trust. This is the work of men who love their task. The affection of the artist is evident at every hand—in form, in color and in material. The satisfaction of the men who did it and of the men who gave them the opportunity to do it must indeed be great. E. D. L.

Smoke Perplexities of the Architect.

Is this perhaps a new train of thought, that smoke can have any bearing whatsoever on the problems of the architect? Have you ever stopped to consider that in this connection it might be a hindrance? For such it is. It limits not alone the expression of the finer ideals of the artist, but is detrimental from a practical standpoint, making unavailable for use certain materials which could otherwise be utilized to the best advantage and necessitating changes in design that the

building may be made impervious to a smoke-laden atmosphere.

No one will deny that soot and the associated substances are injurious to building materials. To any one walking down one of our city thoroughfares it is a self-evident fact. When, however, we wish to know the how and why of its many injurious effects it is essential that we understand its composition and properties. Soot, in as far as materially concerns us, is the product of the incomplete combustion of the one great smoke-producing fuel, soft coal—all others being negligible.

It is not a difficult task to burn soft coal without the emission of black smoke. The furnace has only to be so constructed that sufficient air will be admitted to combine with the combustible matter in the coal; that the air will be thoroughly mixed with the combustible gases; that a sufficiently high temperature be maintained until the gases are completely burned.

In domestic installations, where the coal is burned at a comparatively low temperature, Sir Roberts Austin finds as an average of some forty experiments that of the coal burned in grates something more than 6 per cent. is given off with the blue gases in the form of soot.

All conditions in the furnace greatly affect the amount of carbon lost as soot, but the fact stands out that where equal amounts of coal are consumed, domestic installations are worse offenders than boiler furnaces. Loss of efficiency through the escape of soot itself is small. This is, however, an indication of a far greater loss in the shape of unburned, invisible gases, which loss may reach as high as 10 per cent.

Soot consists of carbon in a finely divided state. This, as is well known, is lamp black, the basis of most black paints, and has a great covering power. It has the power of absorbing the corrosive acids which are produced by the combustion of coal containing sulphur.

Common coal tar makes the soot cling tenaciously to everything with which it comes in contact. Tar contains carbolic acid and other creosote bodies of an injurious nature. Soot also contains sulphurous acid, sulphuric acid, oil of vitriol, sulphuretted hydrogen, hydrochloric acid.

The acids corrode and tarnish all of the common metals. They attack many of the stones and other building materials, especially limestone. Draperies, paper, paints and other decorative materials suffer to no less extent. In burning the sulphur in the coal the relatively inactive sulphurous acid is produced, but this soon becomes oxidized in the air to the far more active and corrosive sulphuric acid. These acids are also poisonous and detrimental to health. The soiling of the metallic surface by the presence of soot containing no injurious constituents is a simple matter and is easily remedied by simply wiping off. This phase is, unfortunately, of rare occurrence, as most soot contains both tar and acids.

When the surface is covered by soot containing tar the matter is more serious—far more heroic measures have to be taken in order to clean it, chemicals being frequently necessary. The corrosion caused by the acids and other gaseous impurities in the air brings about a permanent injury to the metal, destroying the beauty and strength. This can only be guarded against by some means of protection.

Sulphuretted hydrogen is the only common gas which attacks silver, tarnishing that substance, forming silver sulphide, which must be removed by some polishing agent, causing a loss of silver. Copper and brass are also readily tarnished by this and require constant polishing to keep them bright. Black copper sulphide is the coating formed. Ammonia also attacks copper and brass readily and this, combined with the acids in the air, forms a green coating called "verdigris." Gold itself is very little affected by the corroding constituents of the atmosphere. When, however, it is alloyed with copper, as is usually the case (pure gold being soft), tarnishing and corrosion take place to some extent.

The corrosion of pure iron in pure air is not extremely rapid, but when iron contains impurities such as sulphide, phosphide, carbide and free carbon, corrosion is accelerated. When saline substances and strong acids are introduced into the rain water, rusting is increased manifold.

Dr. Rideal found 4.25 per cent. sulphuric acid dissolved in the rust from iron roof girders from the Charing Cross Station in London, which collapsed because of this rusting. In other places where there was not an appreciable amount of smoke one-third to one-quarter as much sulphate was found. This was due to improper protection by paint.

The acid which is absorbed by the soot containing tar is by far the most destructive to metallic surfaces. The carbon containing acid is made to adhere firmly to the metal by means of its tar content. In this position the acid has the best possible opportunity to attack the metal—the action being in all probability of an electrolytic

nature. The pitting of iron is in part due to this cause.

Our investigation in the Pittsburgh district brings to light some interesting facts in regard to the length of time that different materials will last. Ingot iron, copper and lead have the greatest endurance. The lives of all metals are of much longer duration, frequently two or three times as long, in an uncontaminated atmosphere than they would be around the steel mills in Pittsburgh. Repainting of metal surfaces is necessary at least twice as often on account of the smoke, and even with this additional protection the metal itself must be renewed about twice as often —adding much to increase in expense. The effect of soot, with the occluded acids, on stone, terra cotta, brick, etc., is somewhat similar to that which it has on metals, i.e., it both soils and corrodes.

The destruction of the beautiful is, however, the more important, as most stones are but little affected by the acids, while all are practically destroyed so far as any decorative value is concerned. Mortar and stone containing carbonate of lime are those which suffer most from the chemical action of the acid and subsequent corrosion by the weather. In many cases this is a very important factor, as limestone and sandstone with a calcareous cementing material make up a large portion if not all of the stone available for building purposes.

Most stones, brick, etc., used for the construction of the main portion of buildings are finished in the rough. The soot settling in the crevices, is very hard, if not impossible to remove, and if removed, a portion of the stone has to be taken off.

The logical step would be to protect the exposed surface of the stone by means of some harmless waterproof coating, which is permanent, does not discolor the stone and gives a surface easily cleaned. Numerous methods, all more or less effective, have been suggested. Hot paraffine can be applied, but is objectionable because the process is slow and costly. Solutions of soap and alum, silicate of soda or barium carbonate have been used. In the case of carbonate of barium, precaution must be taken, as it is poisonous.

The problem of adapting building materials to use in a smoky atmosphere is most difficult. Limestone, marble and sandstones with a calcareous binder are readily disintegrated by the acid and because of their light color quickly soiled by the soot. They cannot be readily cleaned and when cleaning is possible the stone is worn away in the process and they become dirty in many cities in less than a year. Thus, the stone, which is plentiful and easily worked, can be used only at a great disadvantage. Granite is darker in color and is not corroded, but is too expensive for general use. Dark colored brick do not show the discoloration to any extent, but the mortar is corroded. Glazed brick is the most practical substance available, as it can be cleaned without injury. Contrast in color is impossible to obtain, for in time they all become the same dark, dingy hue.

Soot and its accompanying evils makes of no avail the use of light colors in the painting of the houses of a smoky city unless, perchance, one wishes to paint again within a year. Yet this is due to discoloration rather than to destruction of the paint, for in many cases the soot and tar form a light adhering film, which is actually a protective coating and can be cleaned off, leaving the paint as fresh as ever. Paint is, moreover, not entirely impervious. Moisture and acid often penetrate and injure the surface which the paint is meant to protect.

Interior decorations are even more of a problem than the exterior. Wall paper must be cleaned every six months and renewed at least every two years. Curtains and draperies are soiled as quickly as in smoke free communities. The frequent cleaning, together with the destruction by acid, shortens their life by at least half. The destructive action is probably greatest on fresco paintings, which are not only soiled, but attacked by the acids as well.

RAYMOND C. BENNER.

MARCH 1917

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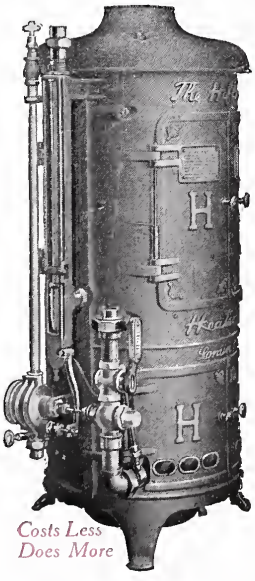


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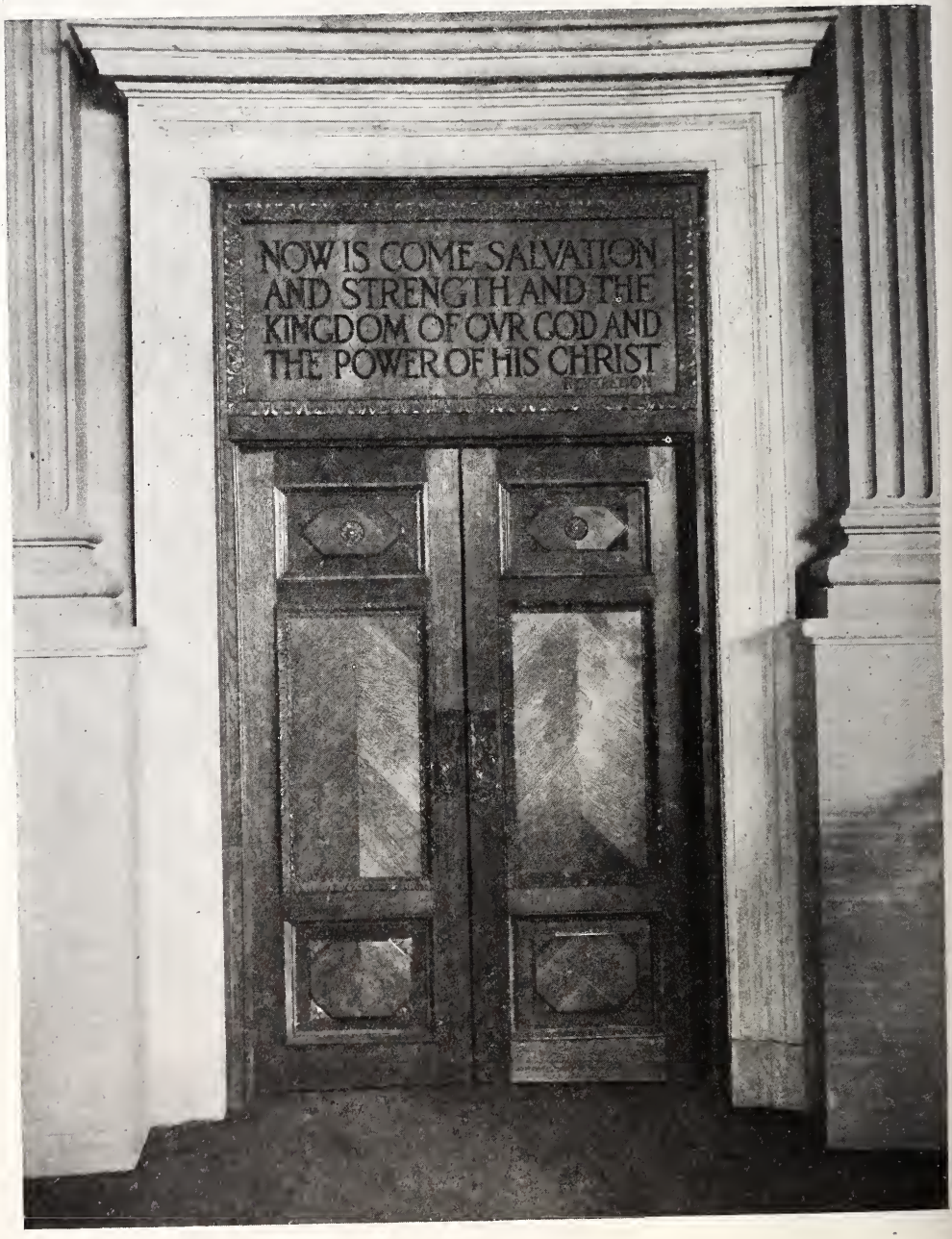
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DOORWAY TO SUNDAY SCHOOL CORRIDOR—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y. GORDON & MADDEN AND WILLIAM G. KAELBER, ARCHITECTS.

THE ARCHITECTVRAL RECORD

VOLVME XLI NVMBER III

MARCH, 1917

The FIRST CHVRCH OF CHRIST, SCIENTIST ROCHESTER, NEW YORK

GORDON & MADDEN AND WM. G. KAELBER, ARCHITECTS

By I T. FRARY

DURING the last few years the Church of Christ, Scientist, has made a most phenomenal growth and has built a great number of church edifices throughout the country. From the standpoint of the architect, one of the interesting features of this growth has been that, almost without exception, the buildings have been designed on classic lines. The Gothic and other so-called Christian styles, which accord so admirably with the service of the Catholic, Episcopalian and other ritualistic forms of worship, seem too formal and severe for the simple service of the Church of Christ, Scientist. The fact that its service is concerned with the interchange of ideas and thoughts rather than with the impressions of a liturgical worship makes essential an auditorium in which every seat is so placed as to enable the occupant to see and hear, and these conditions are most readily secured by following the classic styles.

The exteriors of many of the churches are very beautiful, but there is one criticism of the interiors which applies to nearly all, which is that they are cold, lack sympathy; in other words, they are devoid of color. Correct though they may be in design, in proportion and detail, they are, so to speak, anæmic in effect, and in strange contrast to the warmth and vitality of the religion which is professed within their colorless walls. This asceticism is doubtless due to a revulsion against the chromatic displays which untutored decorators have perpetrated upon the walls and windows of so many churches. The renunciation of color *in toto* is the natural and logical result.

In the case of the First Church of Christ, Scientist, Rochester, New York, designed by Gordon and Madden and Wm. G. Kaelber, this prevailing weakness was recognized; and building committee, architects and decorator worked in accord to the end that there should be a wealth of color dominating the interior, but of a quality and character that should be felt without being too evident, that

should produce a sense of warmth and comfort without in any way suggesting garishness or unrest.

The exterior is very simple in design, little use having been made of ornamental detail. Its effect is largely dependent upon this very simplicity of treatment and the judicious use of grey brick of good color and texture.

A broad approach in front leads up to a raised terrace, around which is carried a stone balustrade, terminating on either side of the terrace steps in stone pylons surmounted by bronze lighting fixtures of unusual and interesting design. Four monolithic columns distinguish the entrance portico, the rear wall of which is pierced by five doorways, above which are square openings filled with pierced stone grilles. These doorways open into a vestibule through which one passes into the foyer. Immediately the atmosphere of warmth is apparent. Although the walls and floor are treated in tones of grey, the tints are warm and cheerful, not the kind that chills and depresses. Furthermore, touches of gold and soft color have been introduced in the lighting fixtures, the hardware, the cushions of the curved benches which stand by the stair walls, and in the balusters of the stair rail.

The floor is covered with a high-pile carpet, surrounded by a border of Tennessee marble raised above the cement floor, just the height of the carpet pile. The room base is also of marble. The dominant feature of the foyer is its unusual plan, the axis being a curve following the outer wall of the circular auditorium.

The auditorium, which is one hundred feet in diameter, is covered by a flattened dome, the surface of which is elaborately coffered, and has for its central feature a gilded sunburst. The disposition of the ceiling ribs is such as to produce a complex but well graduated scheme of coffering, the lines of which are well calculated to carry the attention up to the central point of interest and to give the entire dome a sense of soaring buoyancy.

The walls are broken up into vertical panels by large Corinthian pilasters arranged equidistantly around the entire room, except behind the reader's platform, where the wall is thrust back to provide an organ space, thus calling for the use of free columns to carry the entablature. The pilasters stand on a travertine stylobate and the door casings are of the same material, or, rather, of material with a travertine effect. The organ front consists of three open panels surrounded by a broad stiling of pierced ornament and carried on an ornamented beam. The whole fills in the three open intercolumniations and continue the sweep of the walls. The panels containing the pipes are filled with an open-meshed silk fabric, which hangs in heavy folds from the top. The dominant color note of the room, old rose, is set by these hangings, the draperies which curtain off the space under the organ and the damask with which the wall panels are hung. The tone is taken up in the ceiling, while further touches are to be found in the lighting fixtures, the hardware and the ornamental details of stucco and woodwork.

The large windows, too, fall into harmony with the decorations, both as regards color and design. In fact, every item entering into the equipment of the building was carefully studied in its relation to every other item. Especial care was exercised in designing the glass, to the end that a rich decorative effect might be produced without sacrificing the volume of light.

The pews, reading desk, readers' chairs and other woodwork are all oak; and in all important panels the veneers are divided and the grain is run diagonally to the axis, thus producing an interesting effect of feathering. The scriptural quotations, which so often prove an eyesore by being painted indiscriminately upon any available surface, have here been made a feature of the architectural effect, as they are carved in wood panels placed above the doors which flank either side of the pulpit. Being enriched with color, they are not only legible from all parts of the auditorium, but also have a distinct decorative value.

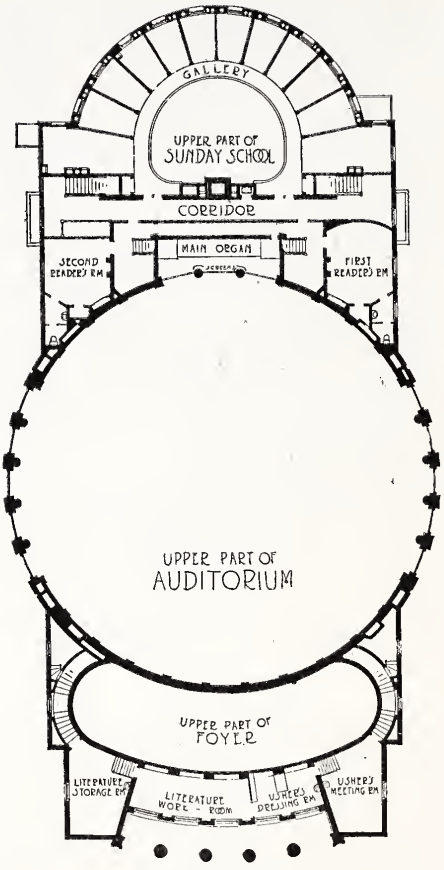
The artificial lighting is derived from a series of twelve torchères, on the wall panels, carrying powerful indirect re-



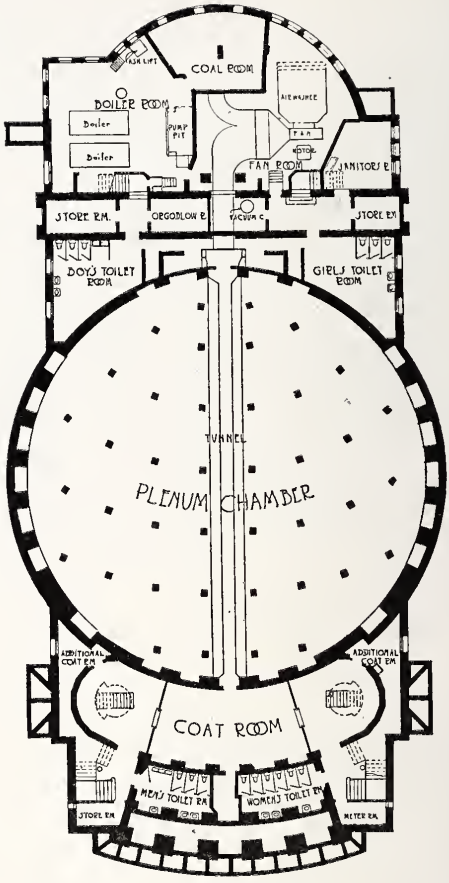
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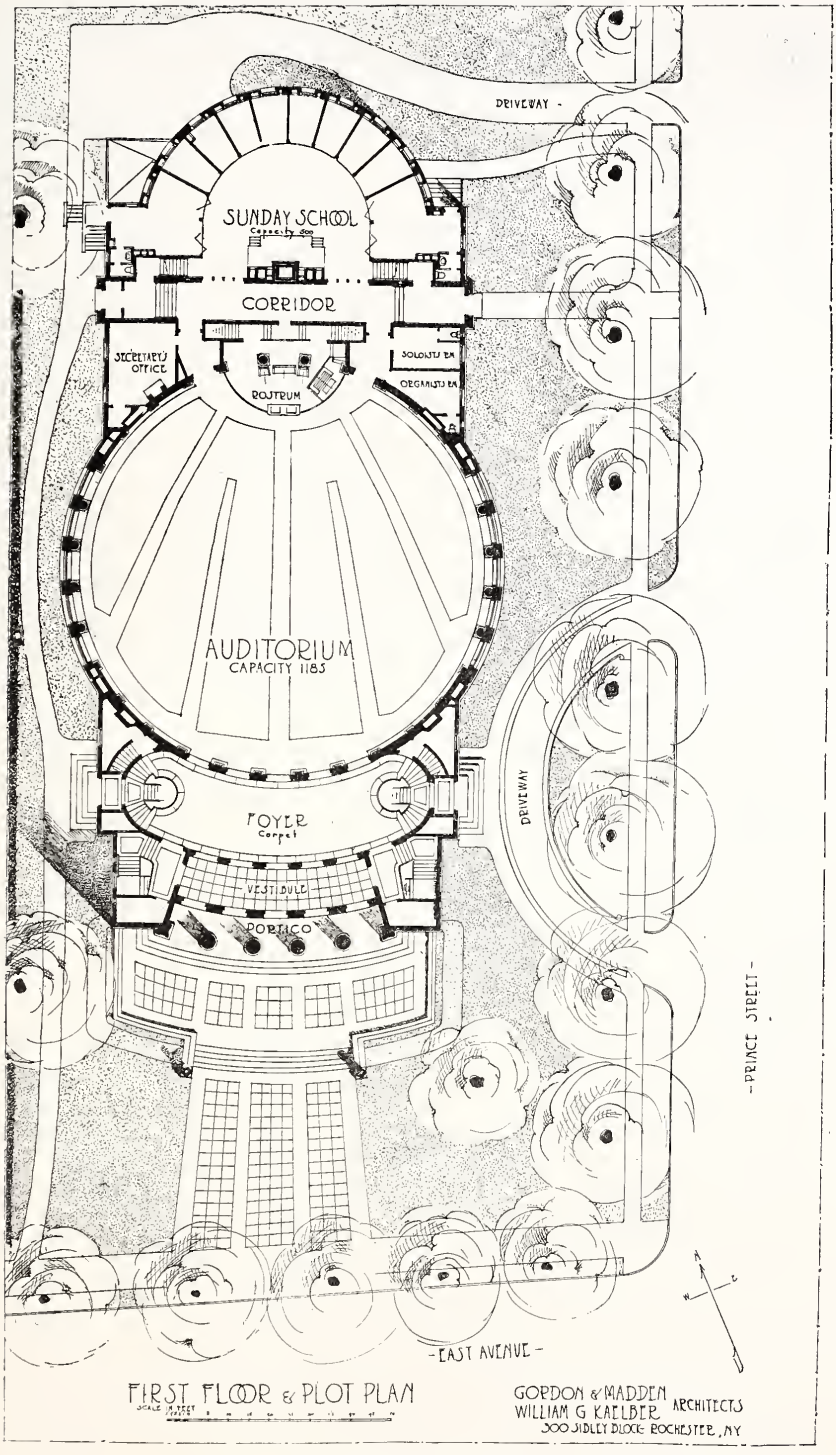


Second Floor Plan.



Basement Plan.

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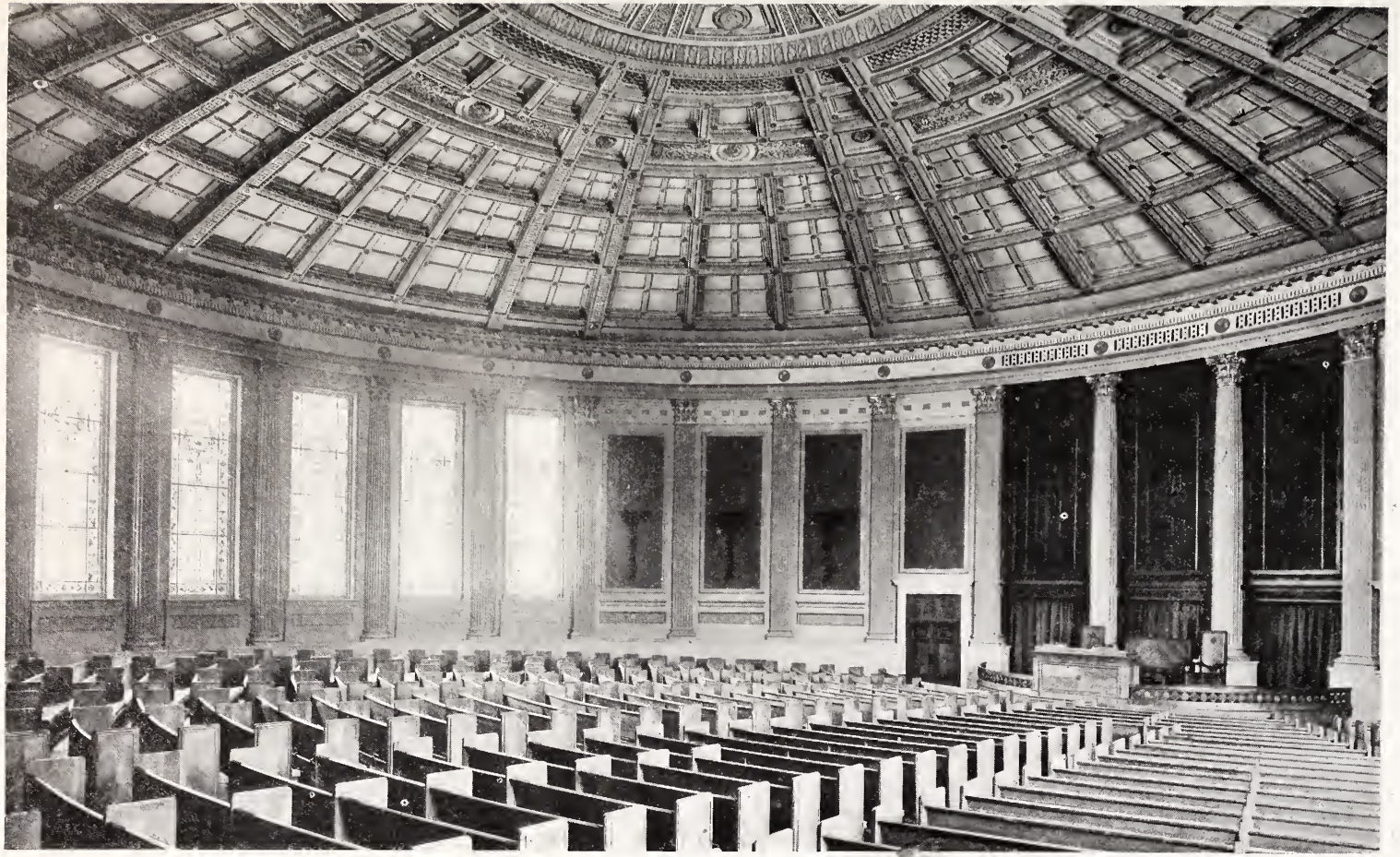
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Gordon & Madden and William G. Kaelber, Architects.



MAIN ENTRANCE—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y. GORDON & MADDEN AND WILLIAM G. KAELBER, ARCHITECTS.



DETAIL OF FOYER—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y. GORDON & MADDEN AND WILLIAM G. KAELBER, ARCHITECTS.



AUDITORIUM—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y. GORDON & MADDEN AND WILLIAM G. KAELBER, ARCHITECTS.



AUDITORIUM FROM READER'S PLATFORM—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y. GORDON & MADDEN AND WILLIAM G. KAELBER, ARCHITECTS.



READER'S PLATFORM AND ORGAN FRONT—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y. GORDON & MADDEN AND WILLIAM G. KAELBER, ARCHITECTS.



TRUSTEES' ROOM—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y.
Gordon & Madden and William G. Kaelber, Architects.



SECOND READER'S ROOM—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y.
Gordon & Madden and William G. Kaelber, Architects.

flectors, which throw the light upward into the dome. A small amount of direct illumination is provided in the brackets and on the gold sunburst at the center of the dome, but the general illumination of the room is indirect.

All the hardware is of special design and is executed in bronze, much of it being enriched with colored enamels. The bronze panels of the five pairs of front doors are also carried out in the same manner.

The Sunday School room is treated very simply, both in color and in design. The readers' rooms, soloist's, organist's and ushers' rooms are all furnished with specially designed furniture, but have been kept quiet and restrained in effect. In the trustees' room a more vigorous note has been struck, and both furniture and woodwork have been given a distinctly Italian character, all the woodwork in the room having been designed to carry out this feeling, and is greatly enhanced in value by a liberal use of color.

From the description, it will be seen that color plays a strong part in the decorative effects of this building. It is most unfortunate that all this effect is of necessity lost in photographic representation.

Architects have their minds so engrossed with the problems of design and construction that they are apt to disregard the problems of decoration as being matters of minor importance which can be turned over to some handy wielder of the paint brush for solution. The result is that many buildings of excellent design have their interior effects practically destroyed through the lack of an intelligent use of color. Though an architect may, as a result of his training, see a building from the standpoint of abstract design, the fact remains that to the eye that is not specialized the element of color makes a far more direct appeal than either line or mass. This is coming to be recognized more and more by the architectural profession, and there is an increasing tendency to see beyond the black and white of the drafting table and to visualize the completed structure as clothed with a garment of color.

The Rochester church was intended to be a representative example of all that is demanded in the housing of a Christian Science organization; and in discussing the building, Mr. Gordon pointed out both the spirit that was to be reflected in the design and the practical requirements that were to be considered in the plan. Calling attention to the manner in which the house of worship reveals the intellectual status of the people who create it, he traced its architectural evolution from the temple of mystery in ancient Egypt to the temple of learning of our time, an evolution of which the Christian Science church is the latest product.

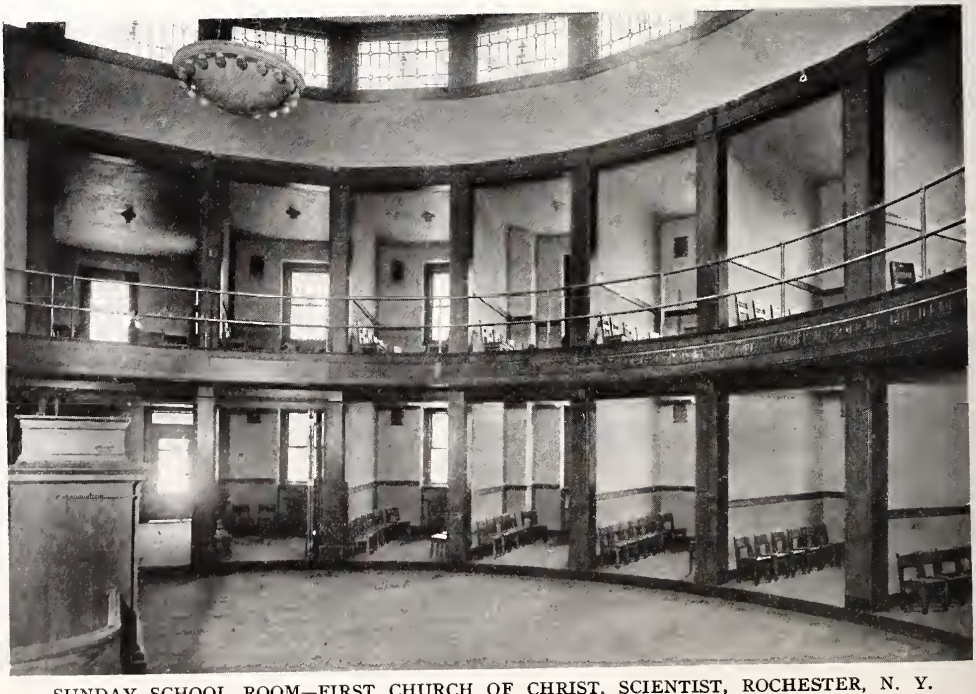
The Christian Science architect must consider the intellectual tendency of this progress, and among other passages from "Science and Health," by Mary Baker Eddy, should have in mind particularly the following:

"Beauty is a thing of life which dwells for ever in the eternal mind and reflects the charms of His goodness in expression, form, outline and color."

The practical requirements are: First, an auditorium of a size carefully estimated for the congregation which is to be housed. It is a policy of the Christian Science organization to establish a number of small churches rather than to develop a few excessively large ones. Second, the auditorium should be so planned and its proportions and finish should be such as to produce perfect acoustics, for the all important use of the building is the teaching of lessons taken from the Scriptures and correlative passages from "Science and Health." Third, the windows should be so located and be of such design and color that they will admit a sufficient quantity of soft, warm light to make reading possible in any part of the auditorium. Fourth, the artificial illumination should be indirect or semi-indirect, with all light sources so placed and protected as to prevent a glare from shining into the eyes of the people. Fifth, the embellishments should be so studied as regards scale and color that they will produce an effect of comfort and repose. The colors should be warm, harmonious and soft, the details restrained and refined, with the intent that no part of the



SUNDAY SCHOOL ROOM—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y.
Gordon & Madden and William G. Kaelber, Architects.



SUNDAY SCHOOL ROOM—FIRST CHURCH OF CHRIST, SCIENTIST, ROCHESTER, N. Y.
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ensemble shall distract the thought from the object for which the room was created—the study of truth. Sixth, in addition to the auditorium, a large comfortable foyer should be provided which should be more than a mere passageway to the auditorium, for this is the gathering place after services and provides the only means of social intercourse inside the church building; all other social activities are outside of the church and are matters with which the church has nothing to do. Thus, no provision need be made for social rooms, dining rooms, kitchens, and the like, which are so important a factor in the churches of many denominations. Seventh, large check rooms for both men and women should be so located as to be readily accessible from the foyer, for it is becoming customary to lay off outer wraps before entering the auditorium. Toilet rooms should of course be located close by if possible. Eighth, the Sunday School room should be as complete as means will permit and should be planned with a separate room for each class, all of which should open into the large room. Ninth, special rooms should be provided for the trustees, for the first and second readers, for the organist and the soloist, also fairly large rooms for the ushers and the literature committee.

The uses for which the various rooms are intended will naturally dictate their furnishings, yet a few suggestions on this subject may not be amiss. The foyer, being a distinctly formal room, calls for but little in the way of furnishings, but a few dignified chairs or benches placed in a formal manner about the room will not only add character, but will also enhance the comfort of those using it.

The trustees' room should reflect the importance of the body which occupies it and should have furniture of a dignified character. A long central table, good substantial chairs, a seat for callers, a roomy desk for the secretary and some provision for disposing of coats and hats —all these items should be of good design without necessarily being expensive. The readers' rooms, which are so often merely bare offices, can with but little expense be made attractive and homelike. The furnishings are simple, consisting of a writing table, a few chairs and perhaps a couch or settle, but in the second readers' room the addition of a small dressing table and mirror will add materially to the comfort of the occupant. Simple curtains, a rug, and good color on the walls, give the finishing touches to what might have been bare and uninviting.

The organist and soloist require only a table, a chair or two and a commodious music cabinet in their rooms, although the soloist would doubtless appreciate the same toilet facilities that have been suggested in the second readers' room.

The big questions of heating, ventilation and other engineering problems are in no way different from those encountered in other types of public buildings, so do not require consideration here.

The church architecture of this country has been as a whole mediocre during the past century. Much of it has been the work of untrained architects and builders who were incapable, even with the best of intentions, of producing good work. The personnel of building committees has been too often determined by considerations entirely foreign to their knowledge of architecture and building operations, and this lack of fitness has borne its logical fruits. It is gratifying to note at the present time a healthful change in these matters and a general growth in the appreciation of good architecture. The professional training of architects is of a higher order, committees are demanding better things and as a result we have a leaven of well designed church buildings spreading throughout the country, which leaven is bound to work and to produce a standard of church architecture which will be a credit and an inspiration to religious organizations.



CARVED WOOD CHANDELIER FROM KENSINGTON PALACE, NOW AT BRYMPTON D'EVERCY, SOMERSET.

English Architectural Decoration

Text and Measured Drawings by Albert E. Bullock

Part II

HAVING briefly related in outline the general historical progress of decoration from the advent of the Renaissance, it remains to enter into rather fuller detail concerning the principles governing the designing of examples in the several periods. Apart from the disposition of decorative ornament, the chief factors in an original composition may be said to be the proportions of the panels and the size, projection and profile of the moldings, whether the design be accompanied by a columnar treatment or be merely a paneled theme.

In Jacobean work the panels were invariably small, while the stiles rarely exceeded two inches and the moldings an inch over all, having very small members and giving a very flat effect. This, however, does not apply universally, as there are some exceptions in regard to the main cornices, the caps and bases to columns and pilasters and the surbase moldings, which were usually very bold, as were also the moldings and rusticated in chimneypieces, especially marble chimneypieces executed during the reigns of James I and Charles I. These latter were frequently ordered from some atelier in London or other principal town, and a certain vogue followed the progressive reputation acquired by a well known mason or sculptor, such as the King's Mason, Nicholas Stone of Long Acre, who with his sons contracted for a great many chimneypieces besides much wainscoting during the first half of the seventeenth century, their commissions extending as far north as Edinburgh. In later times one Peter Bossi executed some fine inlaid marble chimneypieces for various residences in Ireland, examples of which are to be seen in the Victoria and Albert Museum, London.

The early paneled rooms of this period were generally of oak from floor to ceiling. The ceilings were plastered in broad geometric ribs interlacing in various patterns. There were, however, certain notable exceptions, one being an example at Langley Church, namely, the Kidderminster Library, where the paneling is painted chocolate and white, with oil-painted panels depicting local scenes and religious subjects on painted ovals within the moldings forming the panels of the room. As a library it is a very ingenious one, as the paneling is so arranged that the cupboards containing the manuscripts are concealed from view; the shutters to the windows and the ceiling are similarly paneled and painted to harmonize with the decorative scheme.

During the period of Charles I, or from 1630 onwards, the panels were made much larger in scale, and oak was used more sparingly; but there are frequent instances where no paneling existed, the walls being subdivided by means of enriched pilasters, as at the Queen's House, Greenwich, by Inigo Jones, and some of the rooms at Brympton D'Evercy, the residence of the late Sir Ponsonby Fane in Somerset. This latter house has, however, survived many generations with consequent changes of style which render it difficult of approach from a critical aspect for the purposes of comparison. The most interesting examples of decorative art contained in this residence are the chimneypieces, which are mostly of the early eighteenth century, together with some fine carved wood chandeliers removed from Kensington Palace, and also a Queen Anne bedstead.

During the reign of James I it was usual to have marble chimneypieces in two tiers, the lofty overmantel being inlaid or carved in the same material, of which there are several examples at Hatfield House and Balsover. Thereafter it became general to make the overmantel in wood, paneled and carved with enriched moldings, as at Belton and Hampton Court Palace. At the latter place there are some interesting examples of

angle chimneypieces with stepped shelving for china. Pear wood carving and inlaid hardwoods and veneers formed the chief elements of decorative designs for these features, some fine instances of which exist at Chatsworth, the residence of the Duke of Devonshire, and also at Holme Lacy and Penshurst. The surrounding architrave was usually of marble; and the fire being an open one, the back was of cast iron. When grates became fashionable much artistic taste was centered upon this important object, until the Adam brothers entered the arena with their new and remarkable designs of carved and inlaid marble chimneypieces and steel grates of the hob type, various phases of which became familiar objects for many years. Subsequently wood chimneypieces with marble slips became the vogue, with curbs of metal or marble; and a general degeneracy in artistic expression is observable during the early Victorian era. Marble obtained in certain cases, as with the work of Sir John Soane and Charles Barry, but even then it was used sparingly.

With staircases we enter upon a region in which much skill was exhibited during the several periods. The heavy Jacobean staircases with large balusters and lofty carved newels gave place to a type in which the balusters were replaced by carved panels in scrolled leaf work of a high grade of execution and design. With the Wren period the balusters return and are again heavy and massive of form, with the handrail broad and with mitering upon the newel caps, which principle was adopted in a more refined manner during the early and middle eighteenth century. The balusters during these times became smaller in size, with more turning; and there were two and sometimes three balusters to a tread, the handrail being frequently ramped up to the newels in a fine curve. In still later times stone and marble staircases with wrought iron balustrading became fashionable consequent upon visits made to France by English architects and upon the work of French smiths in this country. The fine grilles and gates in churches and mansions throughout the country testify to the skill to which this branch of art attained during the time of Wren and in subsequent decades.

Perhaps the most interesting study, apart from wood-carving, in the realm of decorative art is that of the plasterer. There are extant many hundreds of examples of Jacobean and Italian craftsmanship, including pendant and ribbed ceilings with curious friezes of conventional ornament and foliage. The frieze in the Presence Chamber at Hardwick Hall is one of the earliest and most notable owing to its lofty scale and expansive design of figures and trees, while examples could be quoted from various country seats, as Knole, near Sevenoaks; Montacute, Somerset; from Exeter and other parts of Devonshire; from Sizergh Castle, Westmorland; Powis Castle and many another familiar historic mansion. But it is the later examples which are of more real interest to the student of decorative art, for they frequently find disciples in later times and their forms often bear repetition in compositions of new schemes.

The work of Inigo Jones was chiefly of massive beam type, wherein the cornice was repeated upon the cross beams and ovals forming spaces for pictures, while in confined areas the spandrils would be modeled in floral designs, as the staircase ceiling to Lord Iddesleigh's mansion, The Pynes, Devon, and Ashburnham House, Westminster, London. At the Queen's House, Greenwich, are several varieties of ceilings by Inigo Jones, and his larger mansions, as Raynham, Norfolk and Wilton, contain many good examples. This architect favored the festoon largely in the cove formed in the angle contained by the relation between the main cornice and the ceiling surround. There was until recently a fine ceiling of this type in an inn at Exeter, in which the centre happened to be of carved wood. If Inigo Jones was responsible for the saloon ceiling at Forde Abbey, he certainly added an entirely new note to ceiling design and construction, for the beams of this fine and lofty room curve down with all their mouldings upon the main horizontal cornice which crowns the massive oak paneling below.



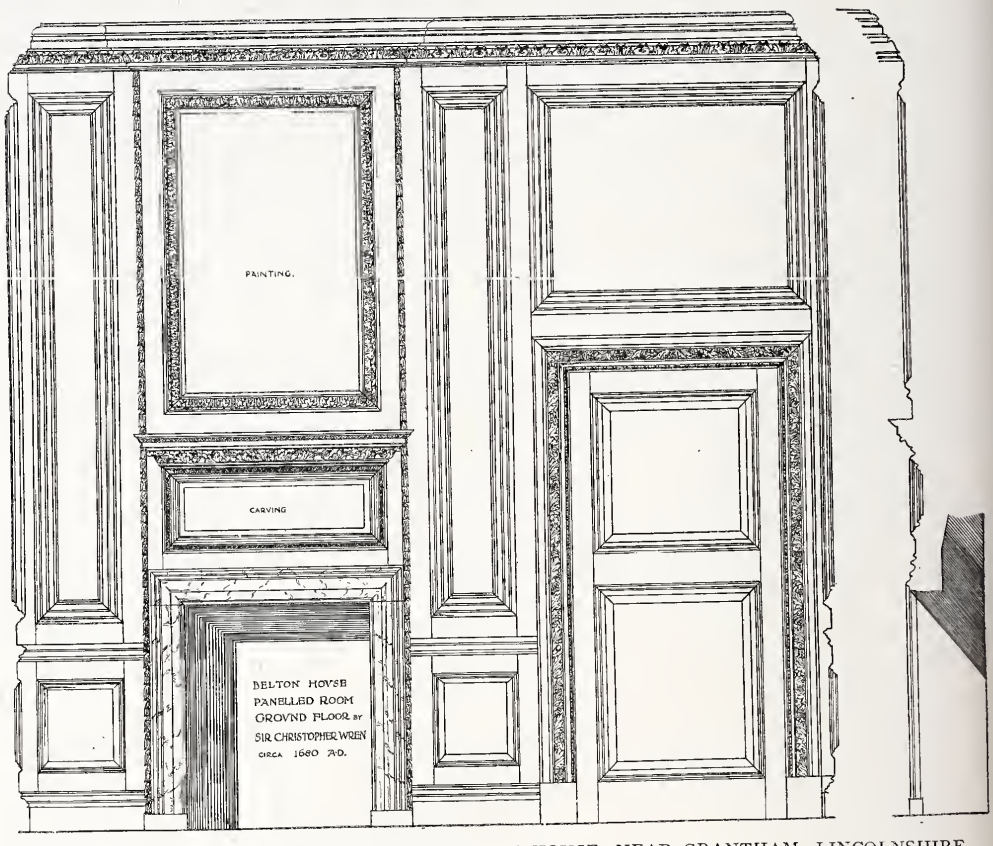
PRESENCE CHAMBER—OLD HARDWICK HALL, BUILT FOR THE COUNTESS OF SHREWSBURY, ABOUT 1567-90.



CHIMNEYPIECE—PALACE OF BROMLEY-BY-BOW, LONDON, ABOUT 1606.



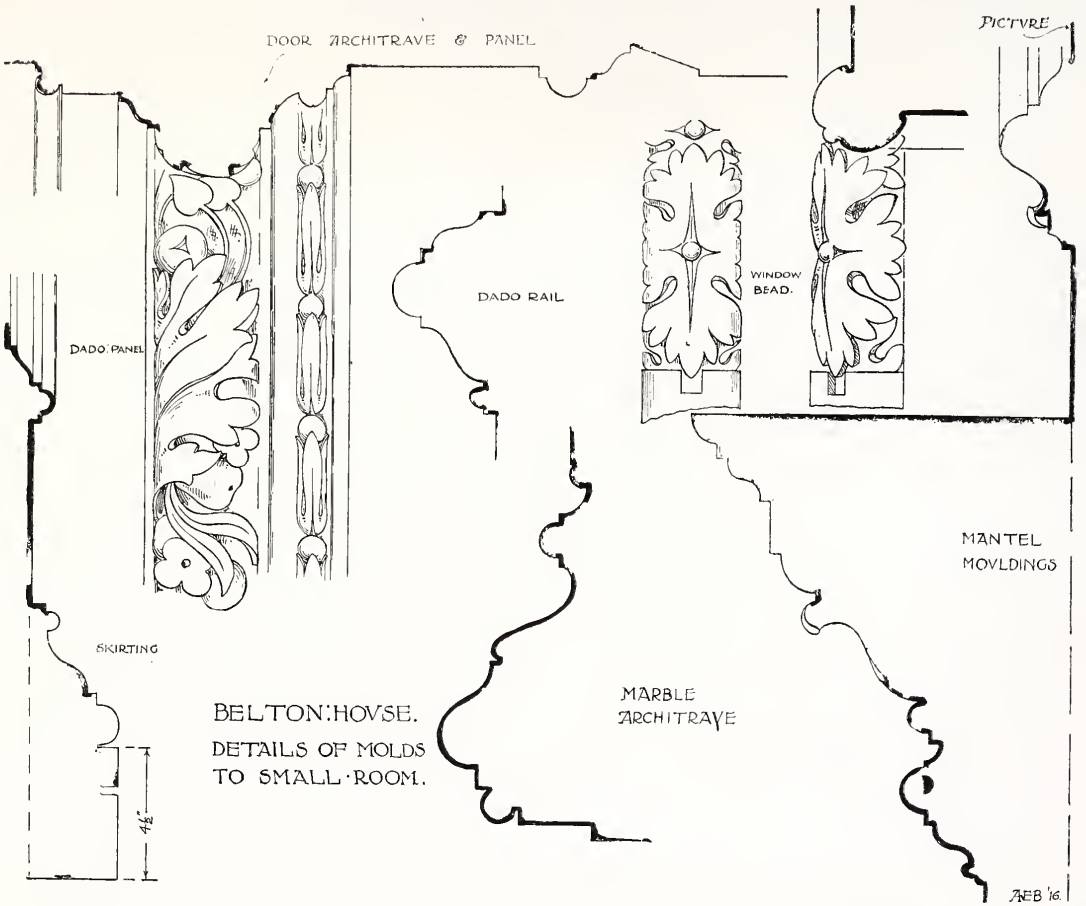
CARVING BY GRINLING GIBBONS IN THE CHOIR OF ST. PAUL'S CATHEDRAL, LONDON.



PANELED ROOM (ON GROUND FLOOR)—BELTON HOUSE, NEAR GRANTHAM, LINCOLNSHIRE. SIR CHRISTOPHER WREN, ARCHITECT. ABOUT 1680.

It is, however, to James Gibbs and Sir Christopher Wren that we owe much of the impetus given to ceiling designs and execution of plastering in the latter half of the seventeenth century, and also to William Talman, the architect of Chatsworth, who introduced some fine sculpture and stone carving in the Fountain Court and notably upon the paneled soffit of the stone ceiling to the corridor of this mansion.

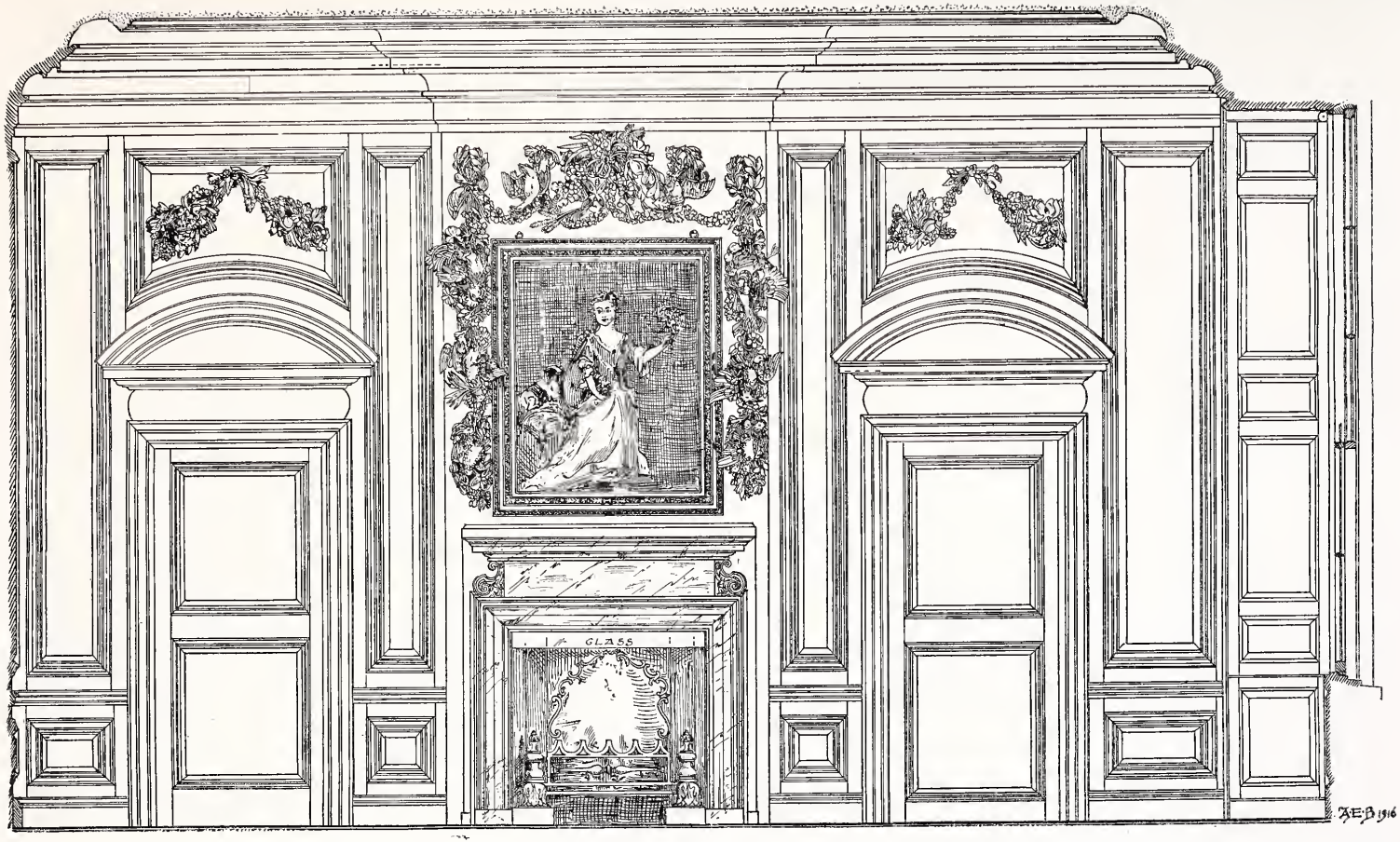
Wren's work in church and mansion needs no comment here, as it has formed the basis for study in architecture for many generations. A circular ceiling from Love Lane, London, said to have been taken from a house once in the occupation of Wren, is a typical example of the style and is illustrated in this series: the well-known ceiling from the Board Room of the Offices of the New River Company is among the finest ceilings extant, having in the large central enriched oval band modeled birds, fruit and foliage colored in appropriate hues. The vestry of St. Lawrence, Jewry, in the city of London, is another instance of a circular ceiling in a square room, of which the enrichment is gilt and of good design. There are also several fine ceilings at Edinburgh, Dublin, and Belfast in which sculptors were probably employed, since the high relief and excellent modeling of many of these show the hand of experienced craftsmen. The degree of excellence to which plastering had attained at this time is depicted in the examples illustrated from Belton House, near Grantham, the residence of Lord Brownlow (of which the Staircase and Chapel ceilings are the two finest examples), and incidentally the Library ceiling is a barrel vaulted one decorated by Adam with paintings in panels formed



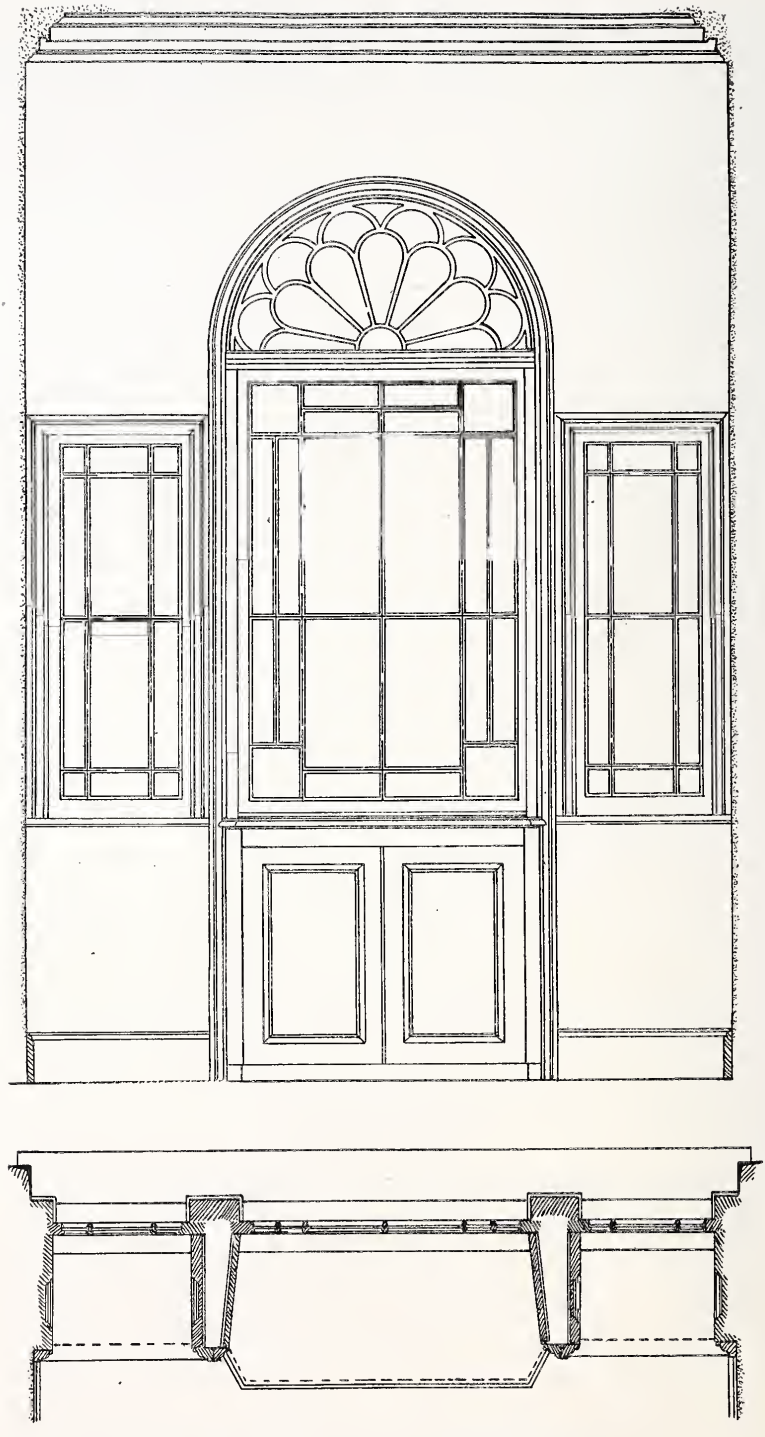
DETAILS OF MOLDS IN PANELED ROOM—
BELTON HOUSE, NEAR GRANTHAM.



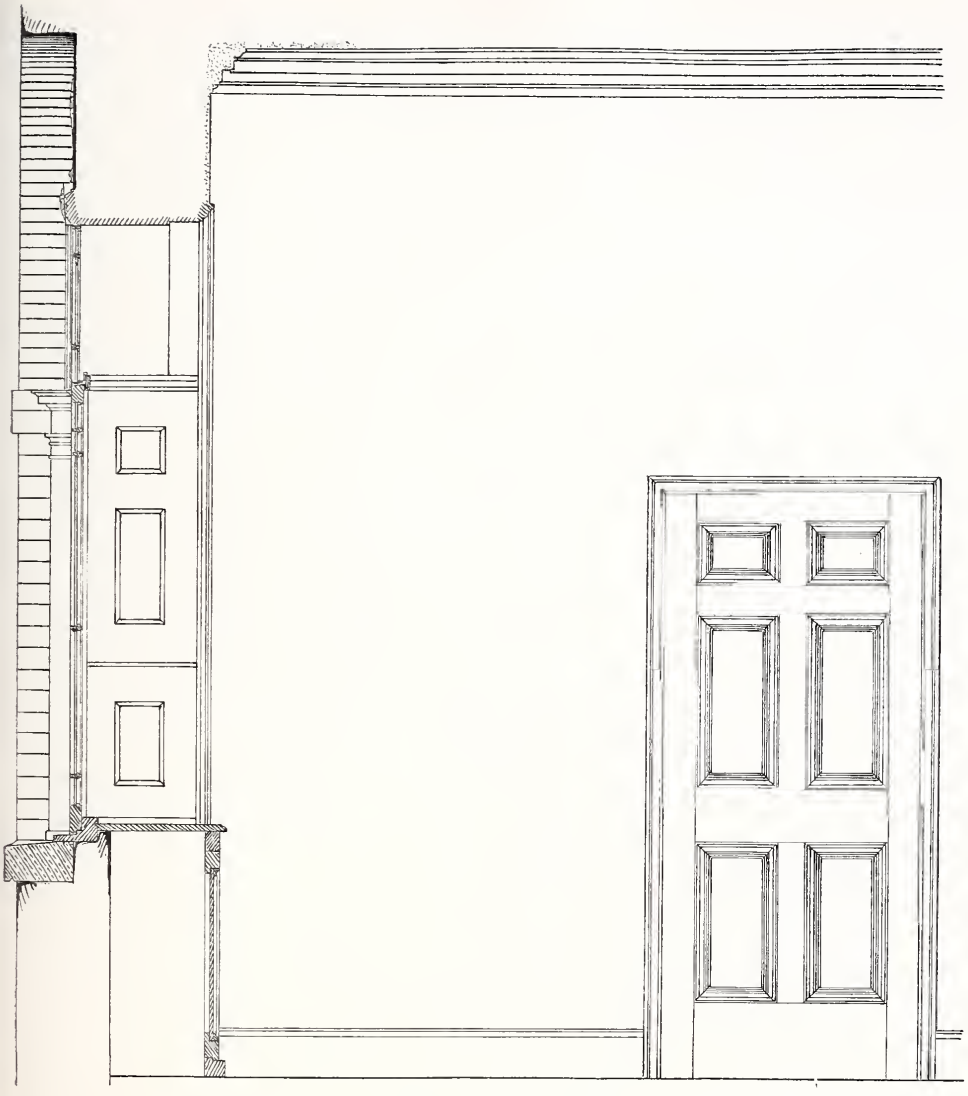
CARVING OVER CHIMNEYPIECE— BELTON HOUSE, NEAR GRANTHAM, LINCOLNSHIRE.



END OF DINING ROOM—BELTON HOUSE, NEAR GRANTHAM, LINCOLNSHIRE. ABOUT 1680.



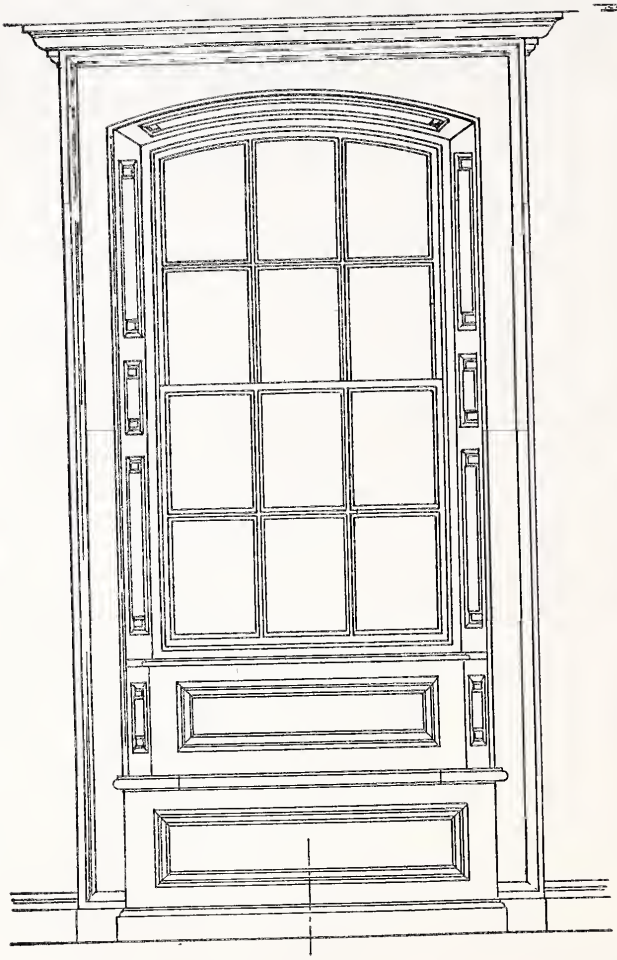
ELEVATION AND PLAN OF AN ADAM PERIOD WINDOW FROM BELLEVUE LODGE, CHELSEA. ABOUT 1771.



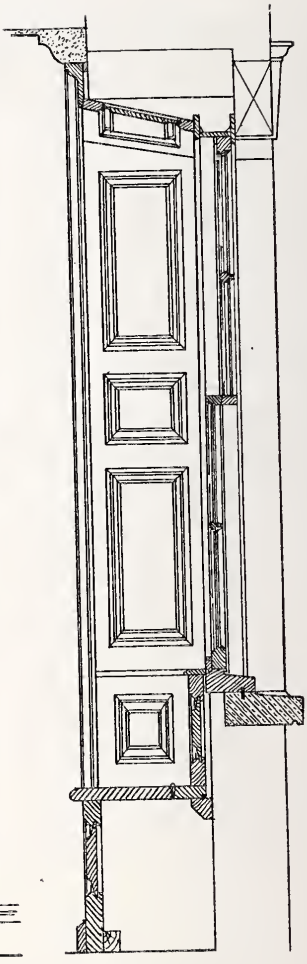
SECTION & DOOR.



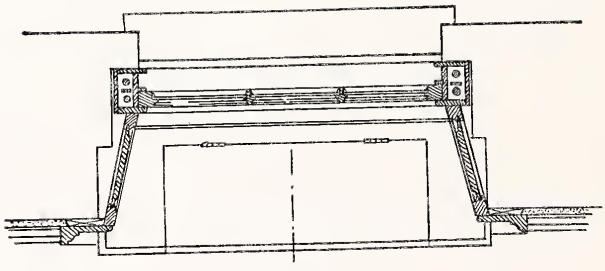
ELEVATION, SECTION AND PLAN OF AN ADAM PERIOD DOOR FROM BELLEVUE LODGE, CHELSEA. ABOUT 1771.



ELEVATION.

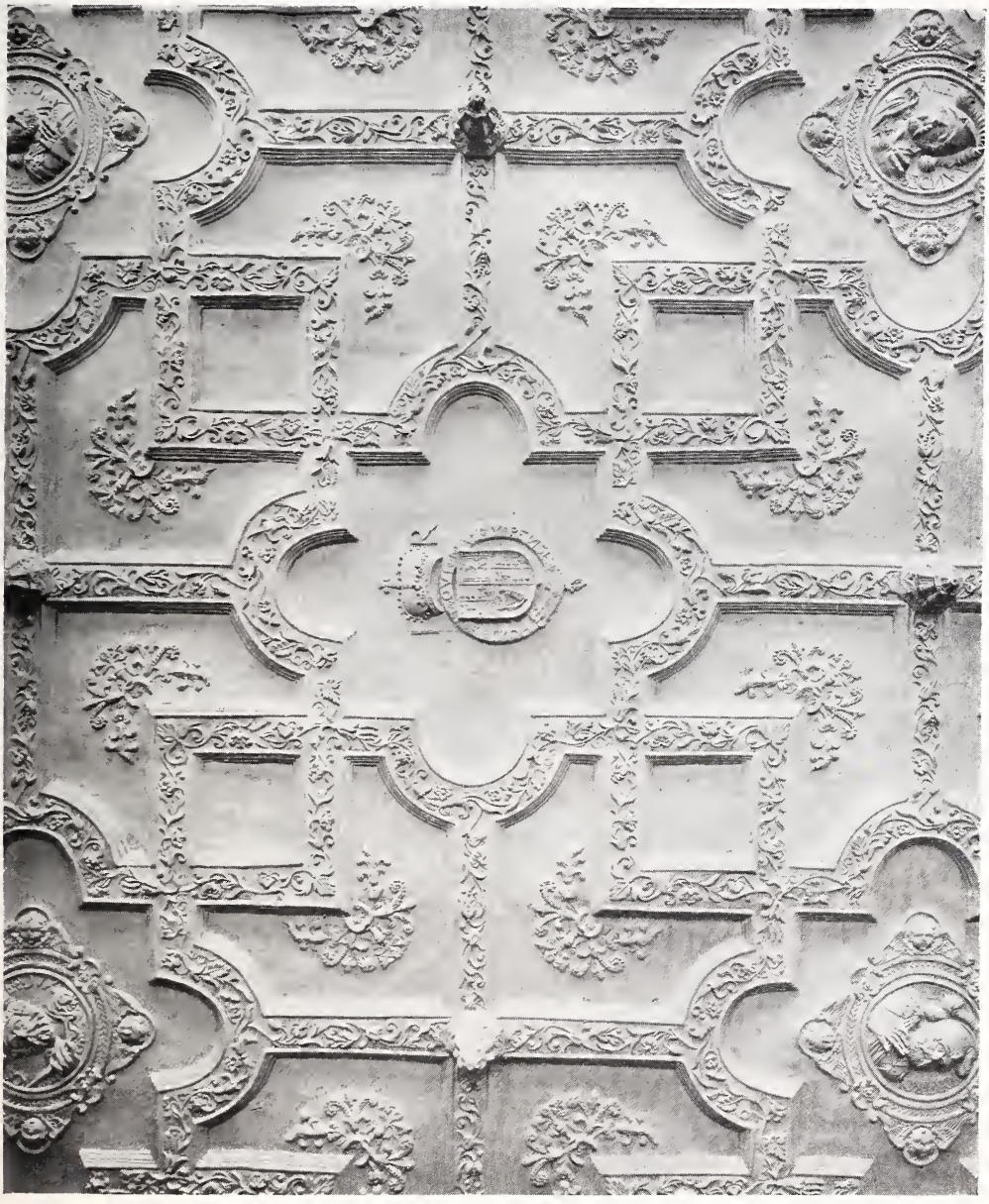


SECTION.



PLAN.

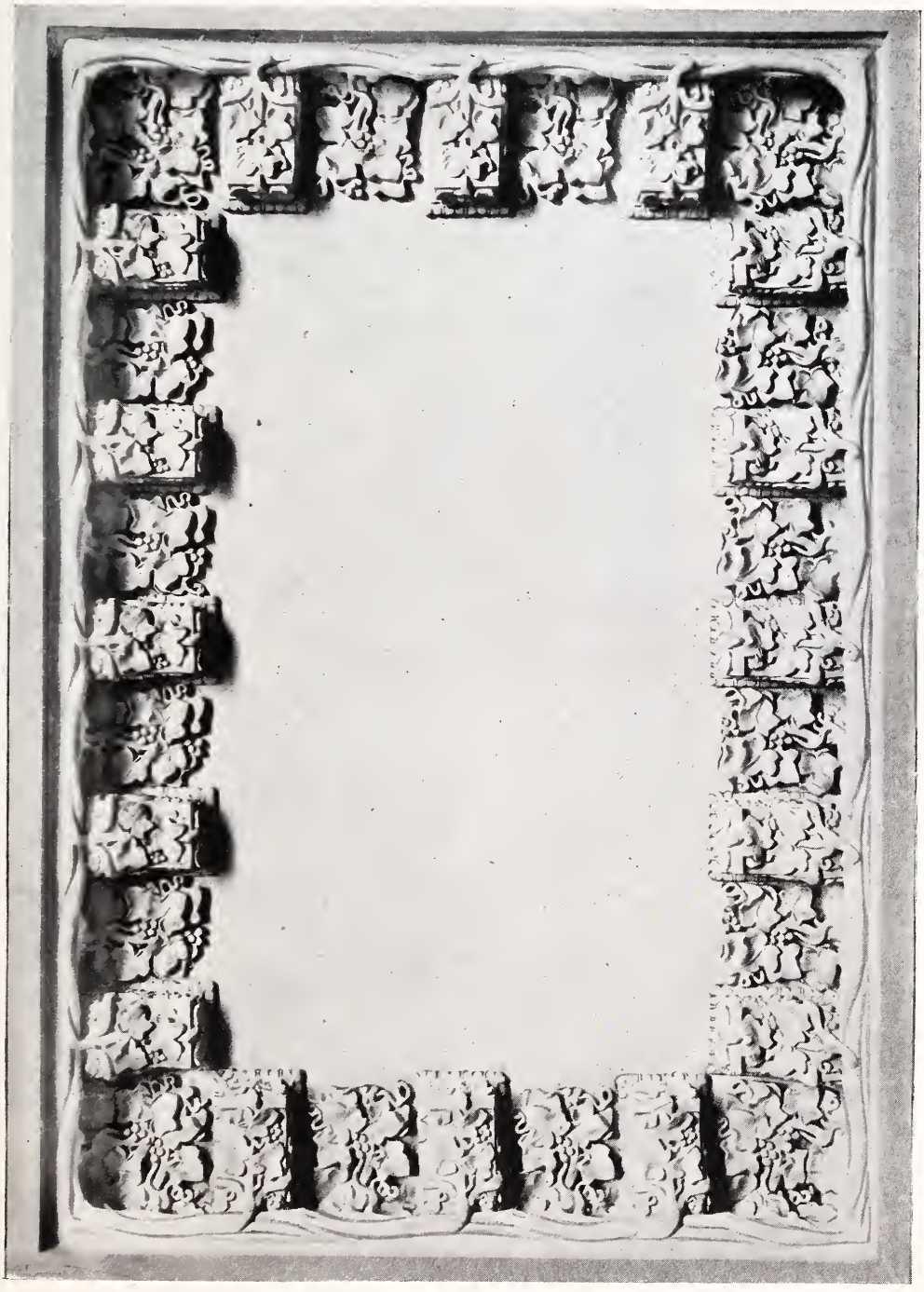
DETAILS OF WINDOW FROM STAR-CROSS, DEVON. LATE GEORGIAN.



CEILING IN THE PALACE OF BROMLEY-BY-BOW, LONDON. ABOUT 1606.



CEILING IN THE WARD SCHOOL, LOVE LANE,
FROM THE PERIOD OF WREN, ABOUT 1680.



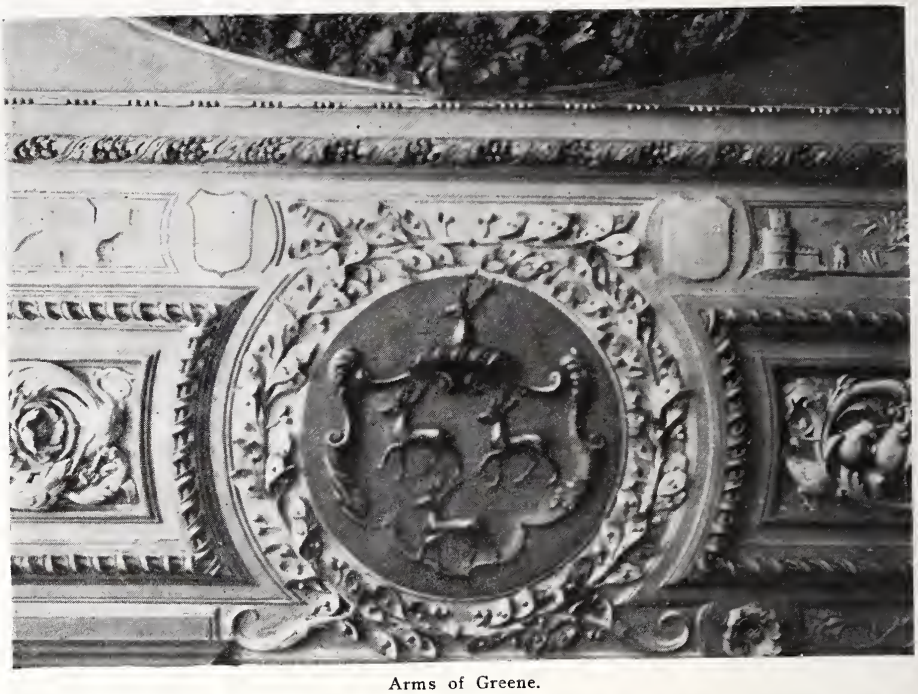
CEILING IN AN OLD HOUSE, CLARE MARKET, LONDON, E. C. ABOUT 1670.



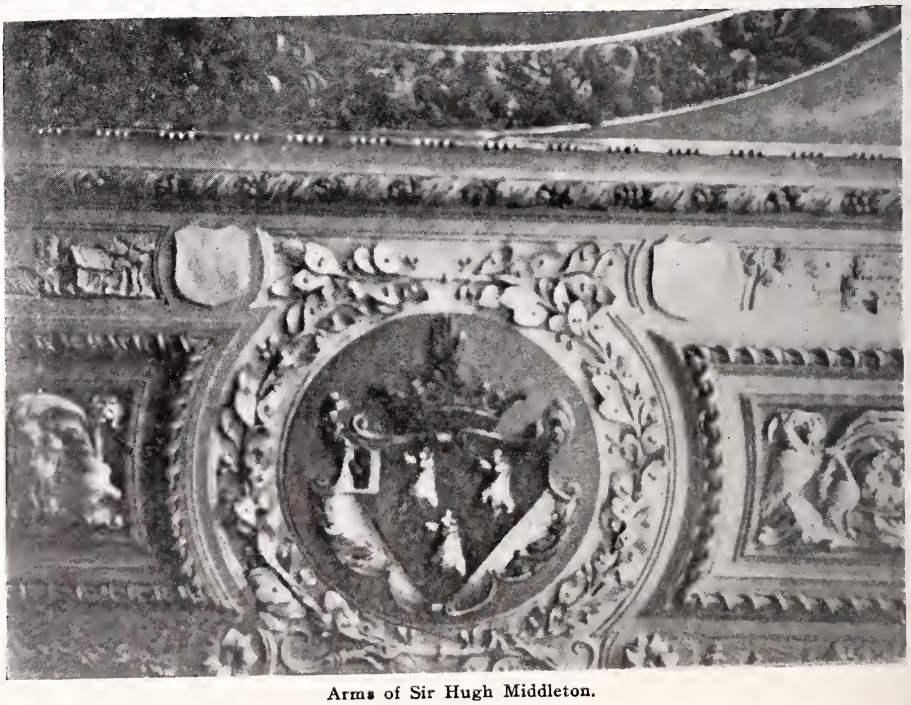
STAIRCASE CEILING—BELTON HOUSE, NEAR GRANTHAM, LINCOLNSHIRE. ABOUT 1680.



CEILING IN SIZERGH CASTLE, WESTMORLAND.



Arms of Greene.



Arms of Sir Hugh Middleton.

DETAILS OF CEILING IN NEW RIVER COMPANY'S BOARD ROOM, PERIOD WILLIAM III. ABOUT 1687.

in the segmental ends of the style of Angela Kaufmann, who did many paintings for the brothers Adam. The College Chapels at both Oxford and Cambridge give evidence of the general pitch of excellence to which plastering had attained during the closing years of the seventeenth century.

There followed a variety of efforts in this cult in subsequent decades which fell short of this degree of success, but which are, nevertheless, historically of much interest. The art of Chippendale introduced a new form based partly upon the Chinese vogue which became fashionable in his day and upon the work of the disciples of the French school of Boule. This class of work, with certain Classic additions, was also adopted in designs by Sir William Chambers, of which there is an instance at Pembroke House, Whitehall Gardens. This was immediately followed by the work of the brothers Adam, who from their atelier in the Adelphi issued such an extensive array of delicate refinements as are to be seen in the *chic* clubs and mansions in various parts of England. Sion House near Brentford is the most notable of these examples where the stone screen on the Isleworth road exhibits the work of a genius in addition to being a foretaste of what may be seen within the lordly mansion on the Thames. These artists, with their coterie of Italian assistants, formed a school of design which entered into every phase of home decoration and furniture, and created a fashion which took such a hold upon the building fraternity and more particularly the owners of large mansions that the demand was for a time greater than the supply, as every art enthusiast cultivated the desire to obtain some representation of the work of the famous brothers, who, but for their unfortunate speculations, would have died wealthy rather than have ended in bankruptcy. Incidentally they were exceedingly clever planners, as Boodles and other clubs in London bear witness (Boodles Club was designed by Adam and executed by John Crundler), and had their notoriety been less extensive their art would undoubtedly have been of a more lasting character. As it is, their extensive practice and rich clientele created an envy among imitators who copied, or rather caricatured, their productions with an endless repetition of finicky detail which eventually brought the style to a climax from sheer satiation of reiterated forms. Their art, however, will live long with those who desire refinement, and it has in itself formed a link in the chain of the history of decoration without which the sequence would be incomplete.

Very little serious attempt has since been made to develop a new form of ceiling design or any fresh motives which have not some previous origin. During the turn of the century the better known architects, as Sir Robert Taylor, Sir John Soane and Sir Charles Barry, were all severely Classical in their ideas, with either an Italian or a Greek feeling in their works; in more modern times George Devey was the first to build upon the foundation of the preceding forms of decoration in his delightful domestic work and to adapt from Knole and elsewhere the most interesting features to the requirements of the residences he designed and built in various localities for his clients.

It remains, therefore, to describe the nature of some of the more notable examples mentioned in the foregoing remarks, and in particular to relate somewhat briefly in later articles an account of the prime movers in the several periods and their schools of thought.



VIEW FROM THE FENS—PSYCHOPATHIC HOSPITAL, BOSTON. KENDALL, TAYLOR & CO., ARCHITECTS.

SOME RECENT HOSPITALS BY KENDALL, TAYLOR & Co.

IN view of the current tendency toward specialization in the case of hospital architecture, it will be of interest to preface a selection from the recent work of Kendall, Taylor & Co. by observing that the founders of this firm have been devoting particular attention to hospital planning for nearly forty years. The hospitals designed by them embrace the greatest variety as regards both type and size of structure, and are widely distributed throughout the country.

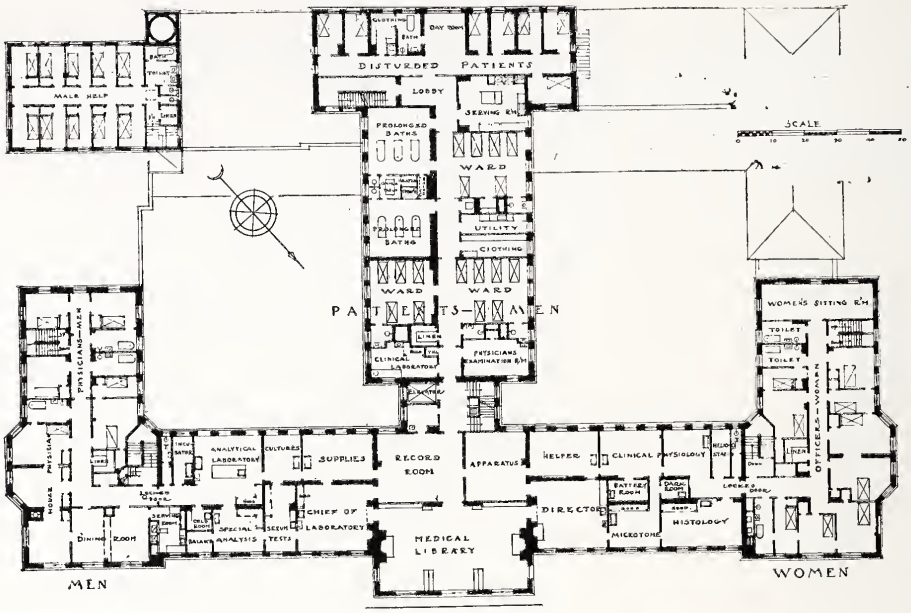
The present selection, being limited to buildings heretofore unpublished, is a very miscellaneous one. Its value lies mainly in the numerous reproductions of floor plans, which may be accepted as studied modern solutions of the architectural problems involved in the different types of hospitals shown.

Heading the list of buildings illustrated is the Psychopathic Hospital, in Boston. In 1908 the State of Massachusetts, acting upon a report by the State Board of Insanity to the effect that the great metropolitan district in and around Boston was inadequately served by the existing institutions, decided to erect a hospital in the city proper for the early treatment of the insane and for preliminary study of symptoms and diagnosis. The Psychopathic Hospital is a complicated aggregation and its plan calls for practically all the modern methods of treatment of the insane. The building is of red brick with terra cotta trimmings. The appropriation precluded any attempt at display, but no pains were spared to provide everything necessary for the care of the patients. The appropriation for the site, building and furnishing was $600,000.

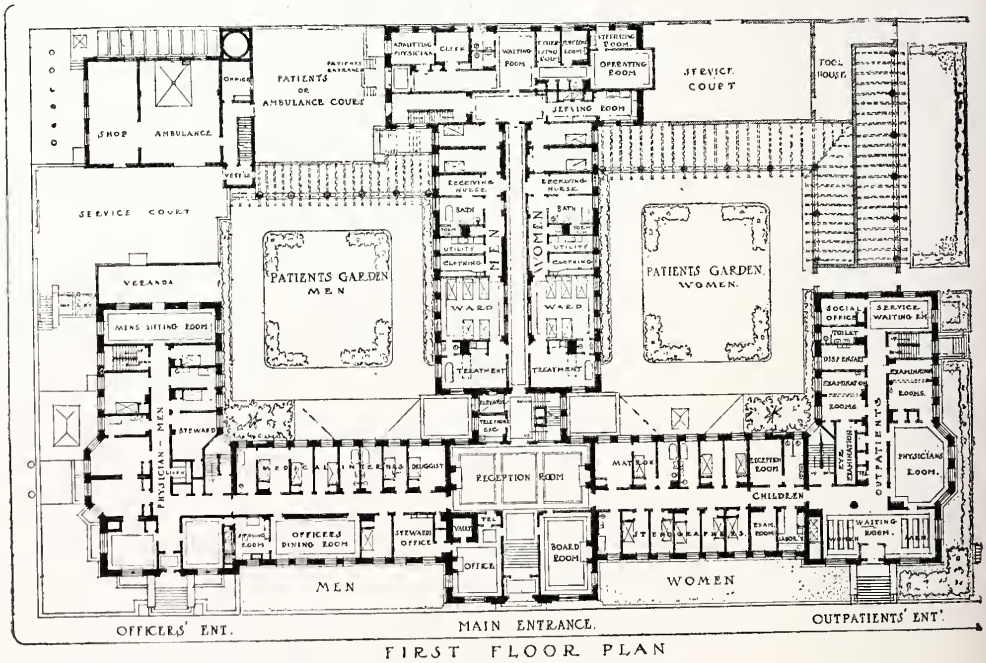
A building of another type is the Samuel Merritt Hospital, in Oakland, California. The institution is endowed and began operations on its present site in the buildings of a former school of theology. The old buildings had been remodeled, and an operating pavilion and one ward were under construction at the time of the San Francisco fire. Somewhat damaged by the earthquake, the buildings were repaired and completed. Subsequently an administration building and a nurses' home were added. The block plan here reproduced emphasizes the value of a preliminary study to determine the main points of future growth in order that the buildings when completed may constitute a co-ordinated group.

One of the most notable hospitals in the country is the Boston City Hospital, founded in 1863. It has been for years an exemplar of progress and efficiency, having commanded the services of an able board of trustees and of some very remarkable administrators as superintendents. Under the late Geo. H. M. Rowe, M. D., it was everywhere regarded as the leading institution of its kind. Architecturally it has suffered from the political exigencies of various city governments. Originally designed by G. J. F. Bryant, it was added to by various city architects. The Medical Outpatient Building shown on page 236 was designed by Kendall, Taylor & Co. The site was a restricted one, in a corner of the yard and facing on two streets, but entered from the hospital grounds. It has proved to be a very satisfactory building for its purpose and cares for a very large number of outpatients.

The West Department of the Massachusetts Homeopathic Hospital was erected from a legacy by John C. Haynes, of Boston. It comprises a group of three buildings, an administration building and two wings connected by corridors. A power plant, with laundry and garage, is located in the rear of the main building and is connected with this by underground piping. The West Department is exclusively used for contagious diseases. It has accommodations for one hundred

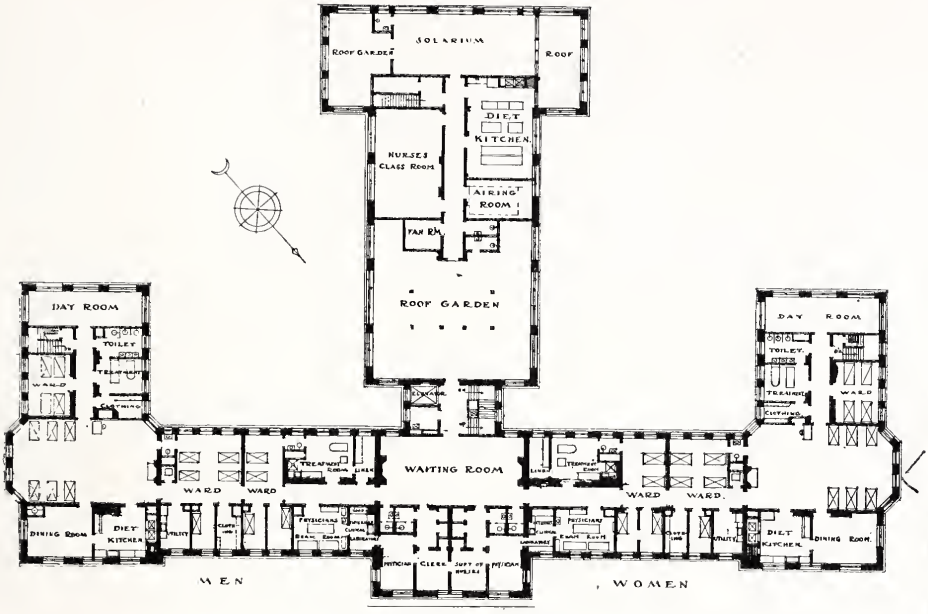


SECOND FLOOR PLAN

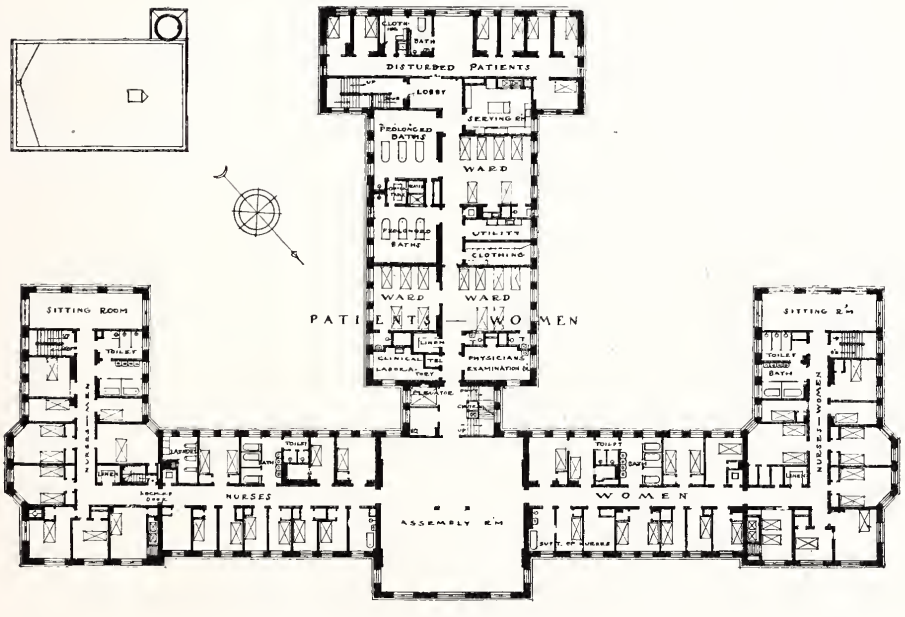


FIRST FLOOR PLAN

PSYCHOPATHIC HOSPITAL, BOSTON.
KENDALL, TAYLOR & CO., ARCHITECTS.



FOURTH FLOOR PLAN

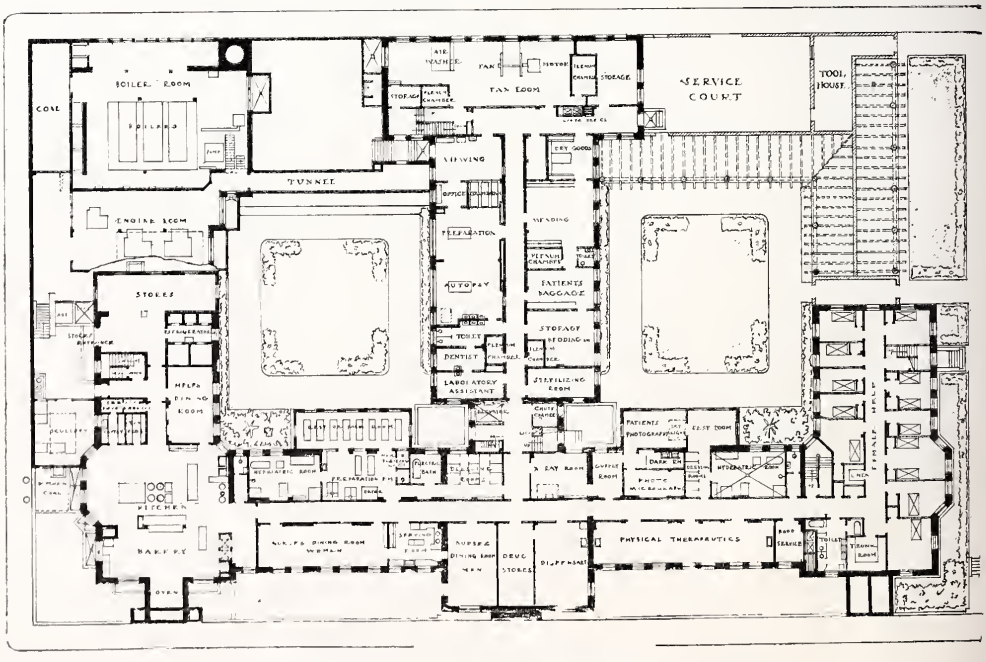


THIRD FLOOR PLAN

PSYCHOPATHIC HOSPITAL, BOSTON.
KENDALL, TAYLOR & CO., ARCHITECTS.



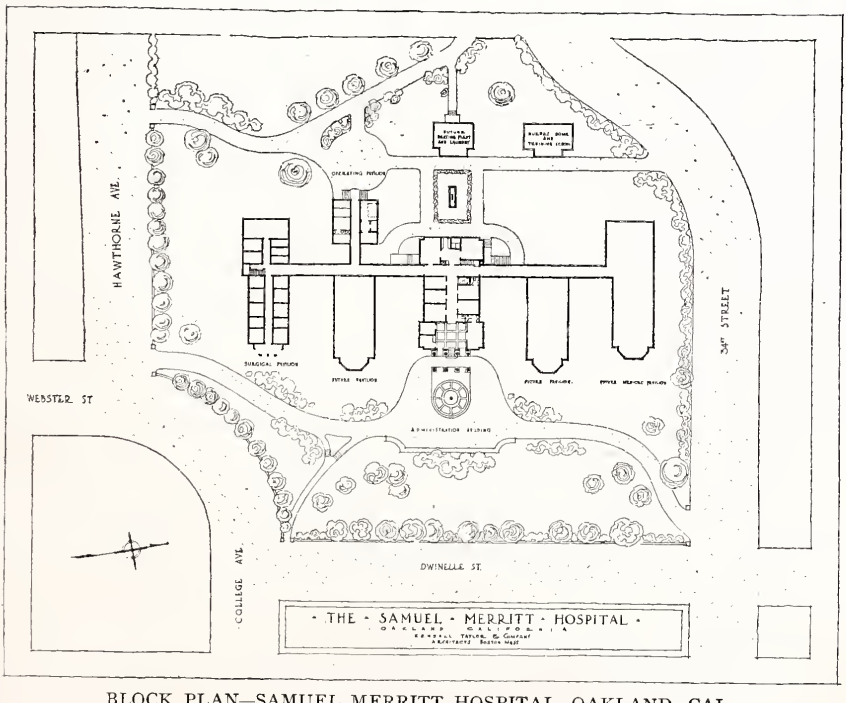
GENERAL VIEW—PSYCHOPATHIC HOSPITAL, BOSTON.
Kendall, Taylor & Co., Architects.



BASEMENT PLAN—PSYCHOPATHIC HOSPITAL, BOSTON.
Kendall, Taylor & Co., Architects.



GENERAL VIEW—SAMUEL MERRITT HOSPITAL, OAKLAND, CAL.
Kendall, Taylor & Co., Architects.



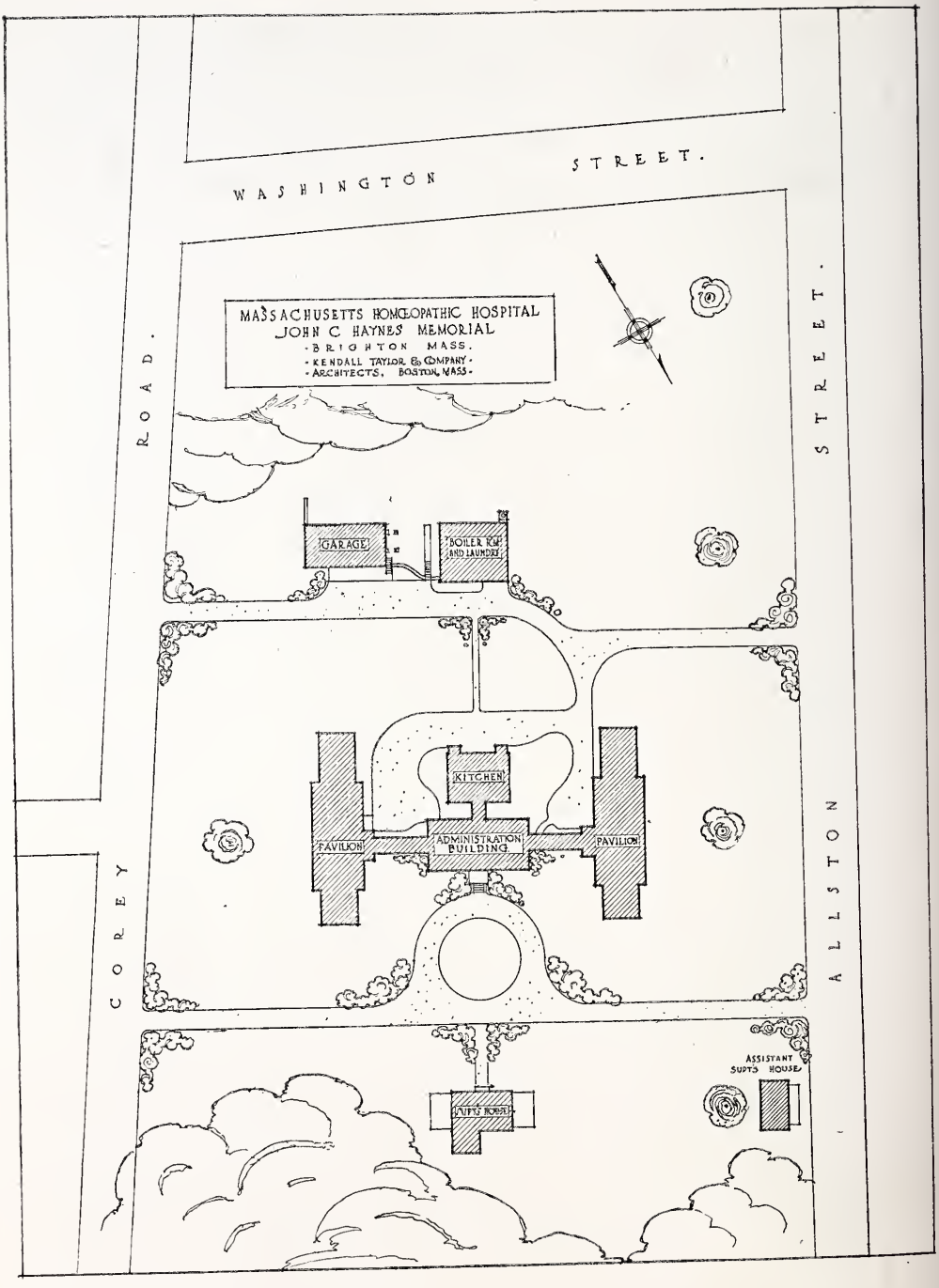
BLOCK PLAN—SAMUEL MERRITT HOSPITAL, OAKLAND, CAL.
Kendall, Taylor & Co., Architects.



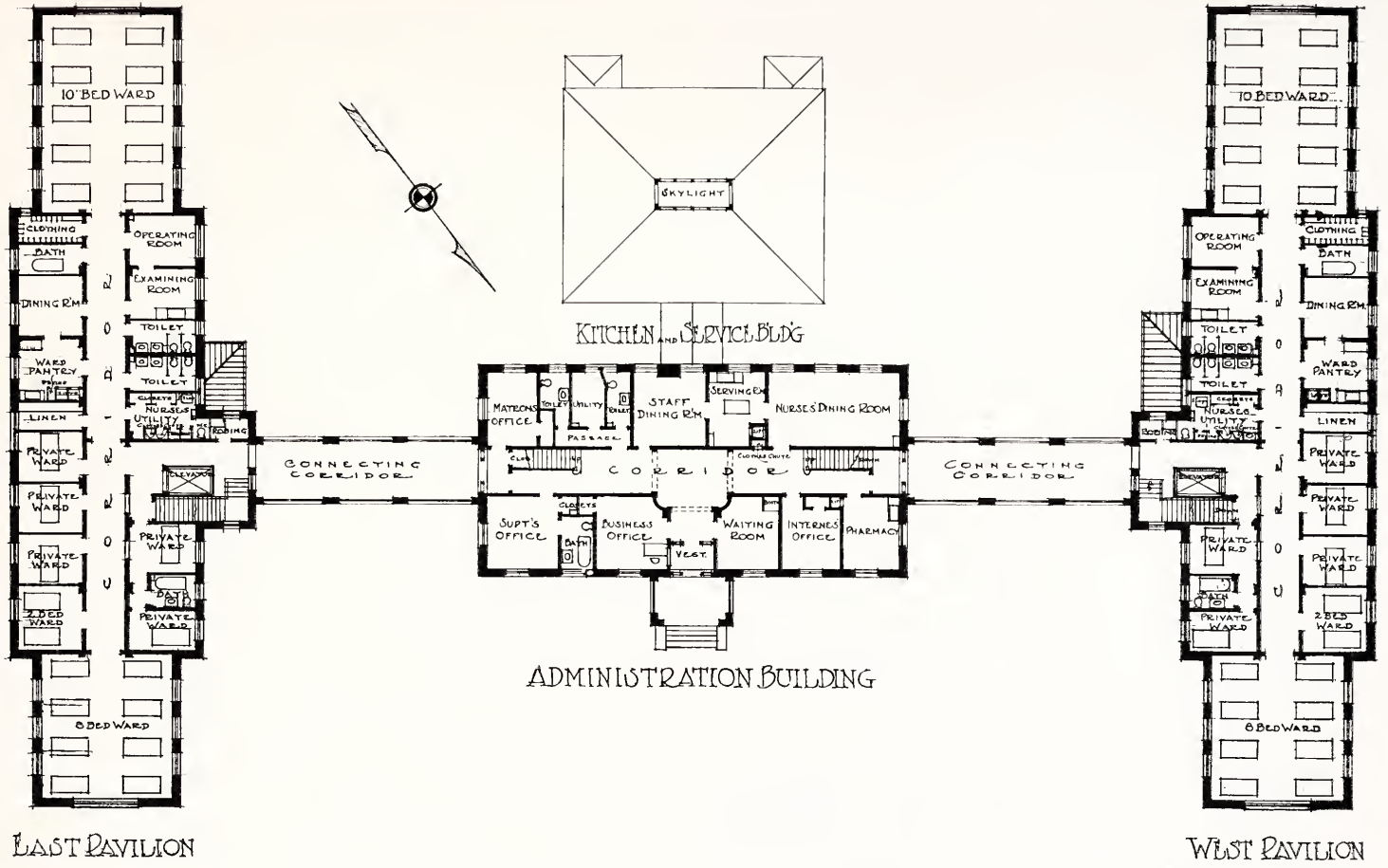
MEDICAL OUTPATIENTS' DEPARTMENT—BOSTON CITY HOSPITAL. KENDALL, TAYLOR & CO., ARCHITECTS.



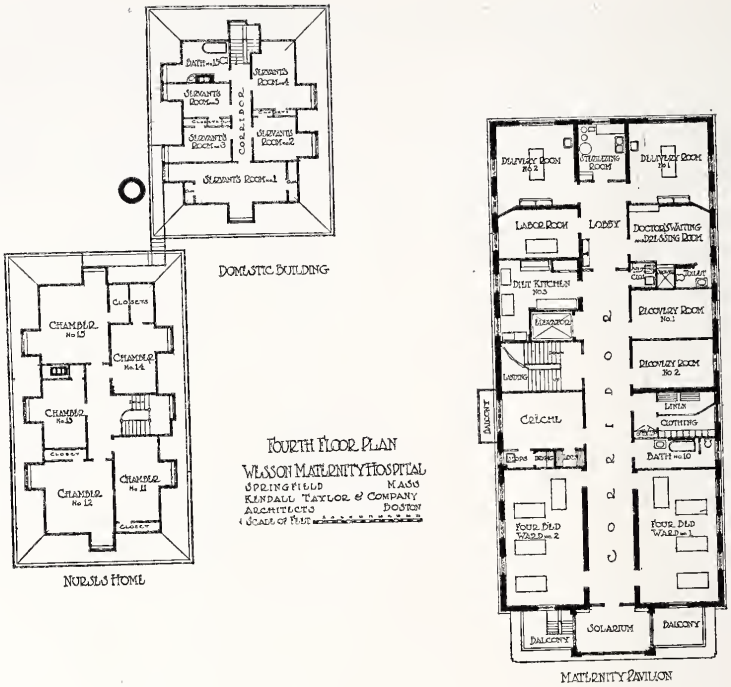
MASSACHUSETTS HOMEOPATHIC HOSPITAL,
JOHN C. HAYNES MEMORIAL, BRIGHTON, MASS.
KENDALL, TAYLOR & CO., ARCHITECTS.

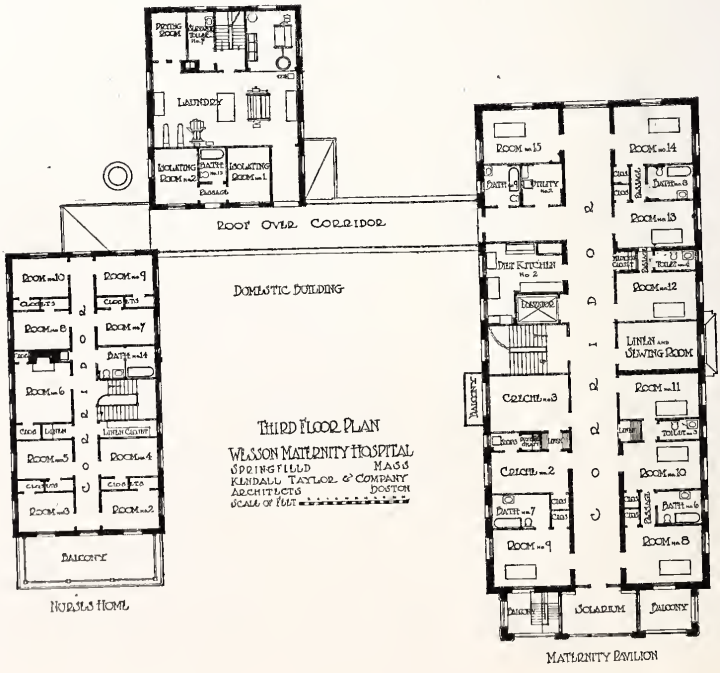


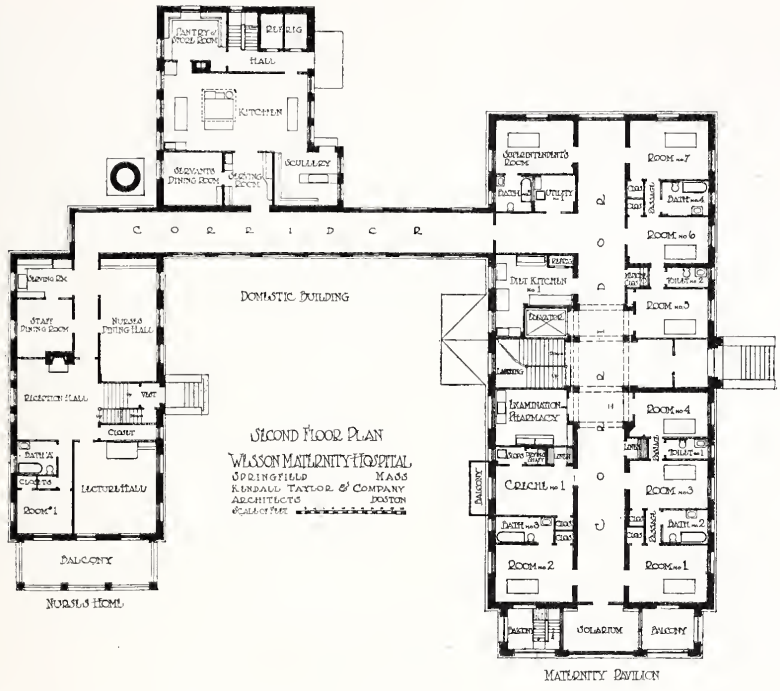
BLOCK PLAN—MASSACHUSETTS HOMEOPATHIC HOSPITAL, JOHN C. HAYNES MEMORIAL, BRIGHTON, MASS. KENDALL, TAYLOR & CO., ARCHITECTS.

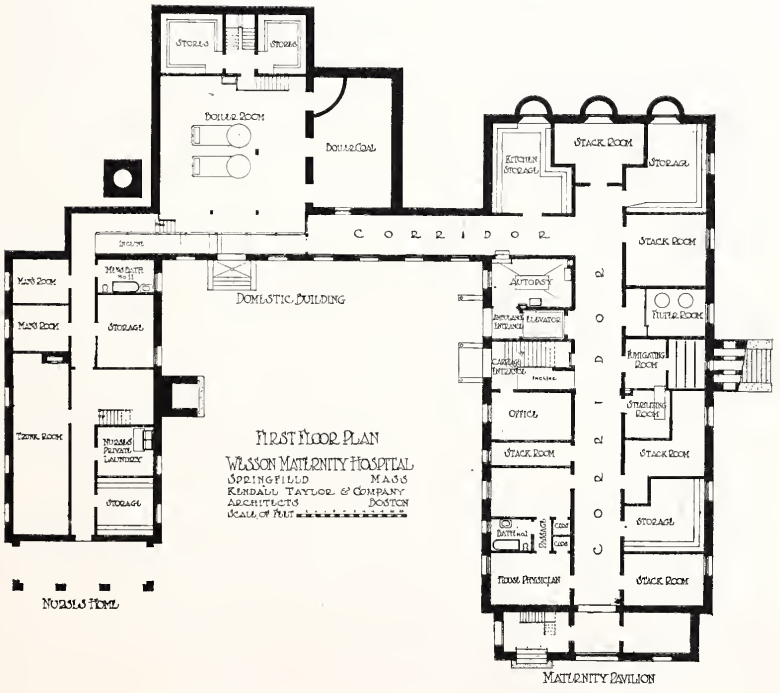


FIRST FLOOR PLAN—MASSACHUSETTS HOMEOPATHIC HOSPITAL, JOHN C. HAYNES MEMORIAL, BRIGHTON, MASS. KENDALL, TAYLOR & CO., ARCHITECTS.


DOMESTIC BUILDING
NURSES HOME
MATERNITY PAVILION
FOURTH FLOOR PLAN
WESSON MATERNITY HOSPITAL
SPRINGFIELD MASS
KENDALL TAYLOR & COMPANY
ARCHITECTS BOSTON
SCALE OF FEET


ROOF OVER CORRIDOR
DOMESTIC BUILDING
NURSES HOME
MATERNITY PAVILION
THIRD FLOOR PLAN
WESSON MATERNITY HOSPITAL
SPRINGFIELD MASS
KENDALL TAYLOR & COMPANY
ARCHITECTS BOSTON
SCALE OF FEET


HALL
KITCHEN
SCULLERY
CORRIDOR
DOMESTIC BUILDING
NURSES HOME
MATERNITY PAVILION
SECOND FLOOR PLAN
WILSON MATERNITY HOSPITAL
SPRINGFIELD MASS
KENDALL TAYLOR & COMPANY
ARCHITECTS BOSTON
SCALE OF FEET

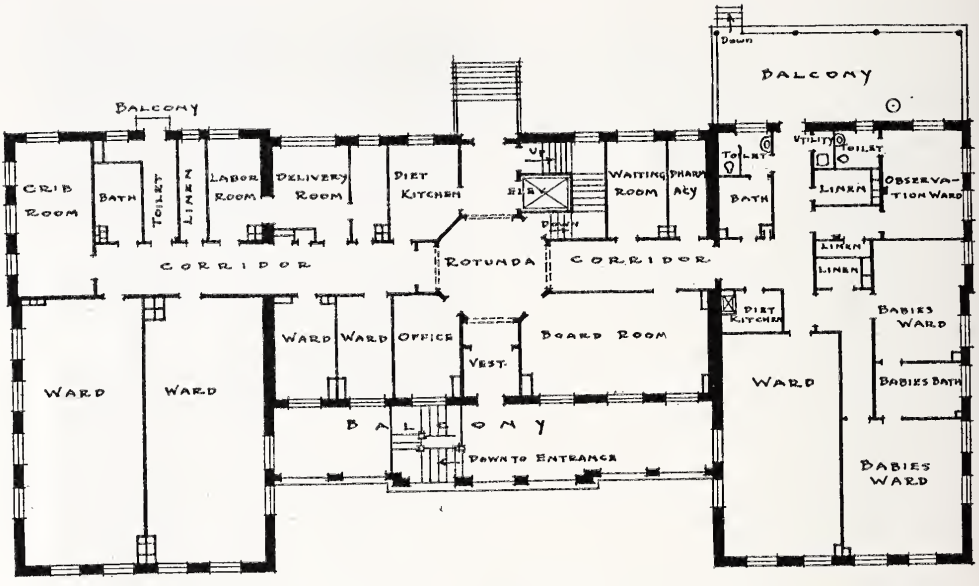

STORES
BOILER ROOM
CORRIDOR
DOMESTIC BUILDING
NURSES HOME
MATERNITY PAVILION
FIRST FLOOR PLAN
WILSON MATERNITY HOSPITAL
SPRINGFIELD MASS
KENDALL TAYLOR & COMPANY
ARCHITECTS BOSTON
SCALE OF FEET



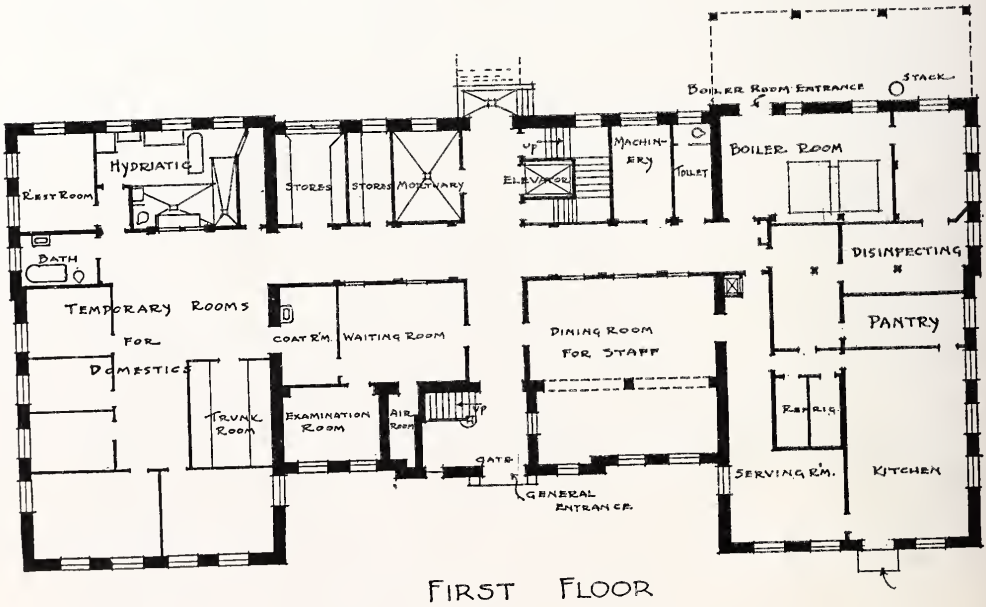
WESSON MATERNITY HOSPITAL, SPRINGFIELD, MASS. KENDALL, TAYLOR & CO., ARCHITECTS.



YONKERS HOMEOPATHIC HOSPITAL, YONKERS, N. Y. KENDALL, TAYLOR & CO., ARCHITECTS.

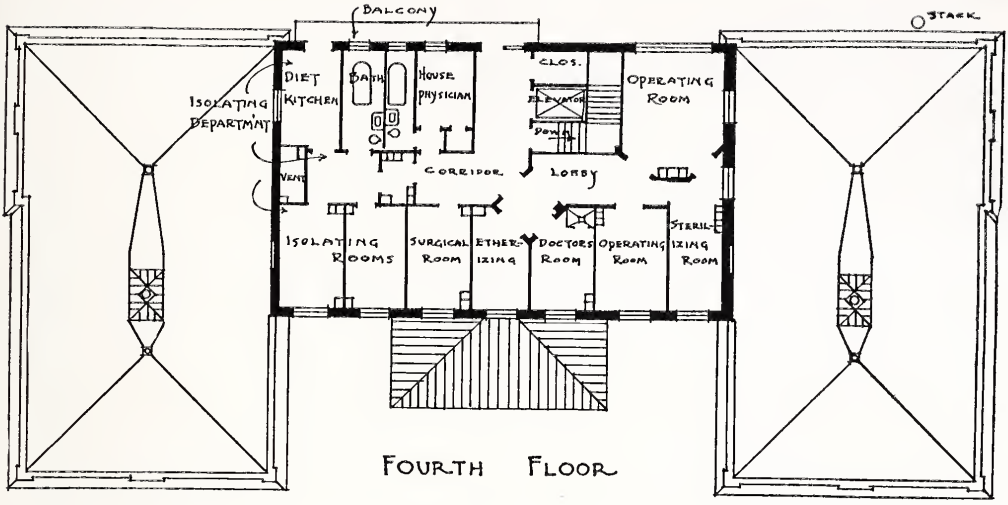


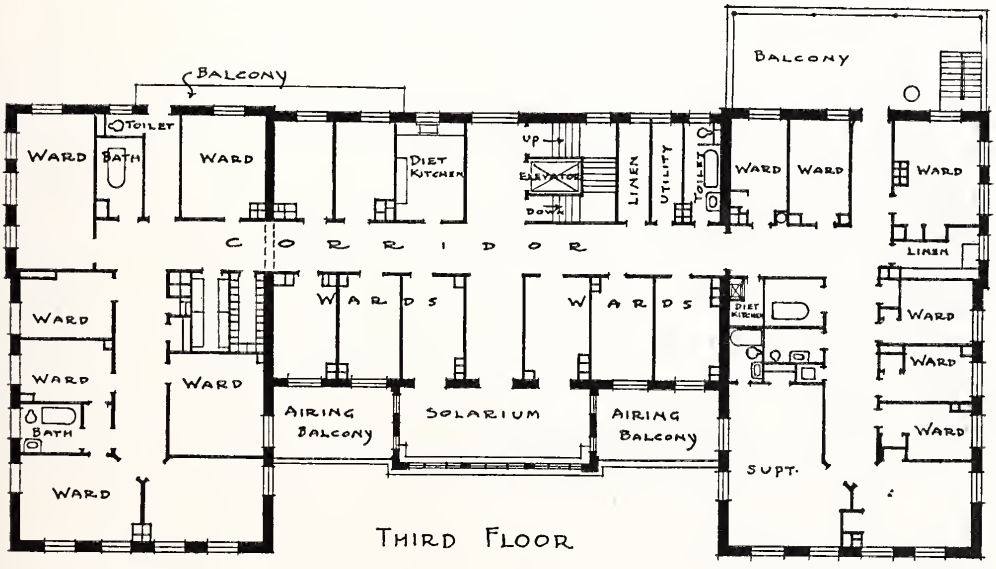
SECOND FLOOR



FIRST FLOOR

FLOOR PLANS—YONKERS HOMEOPATHIC HOSPITAL, YONKERS, N. Y. KENDALL, TAYLOR & CO., ARCHITECTS.





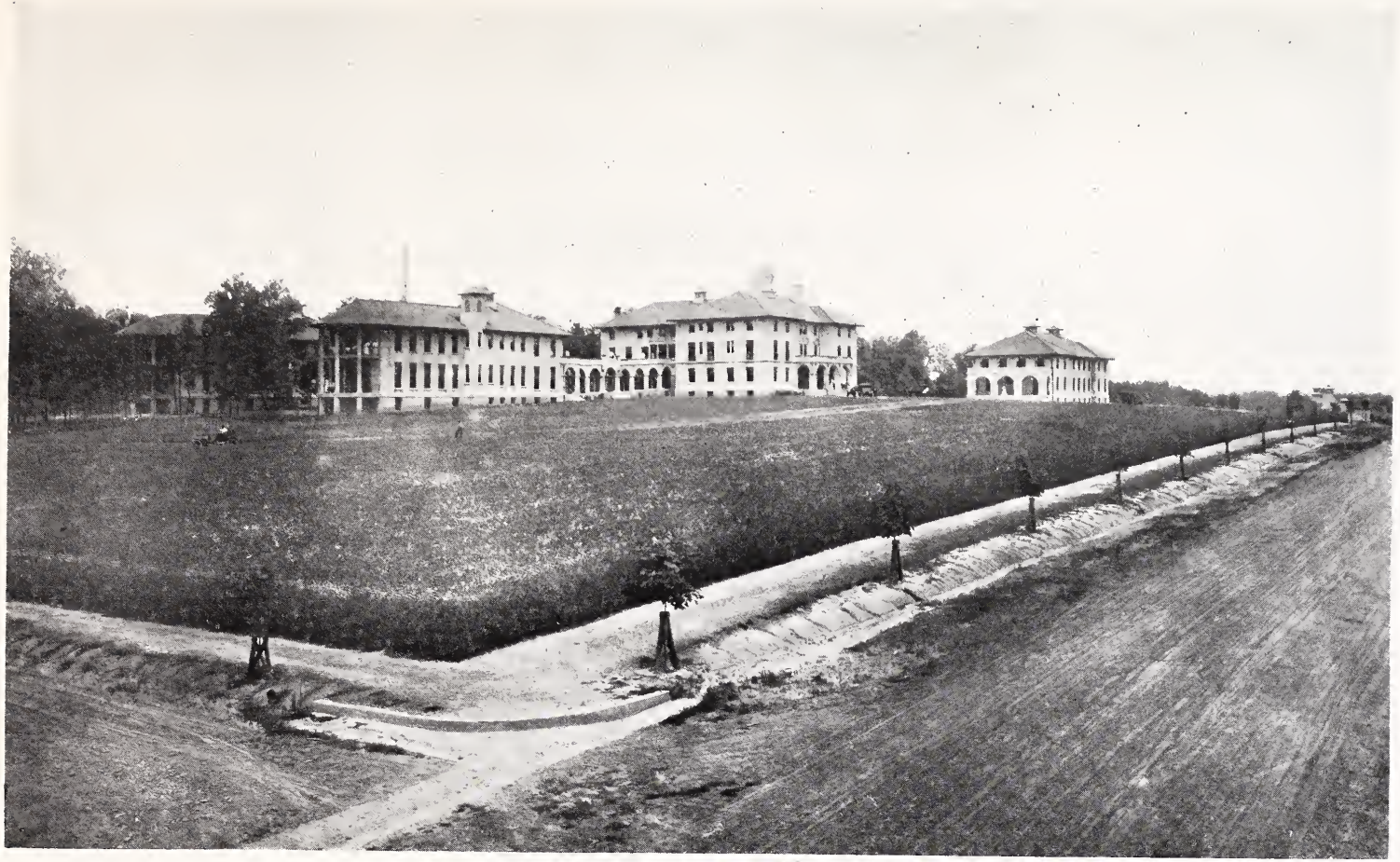
FLOOR PLANS—YONKERS HOMEOPATHIC HOSPITAL, YONKERS, N. Y. KENDALL, TAYLOR & CO., ARCHITECTS.



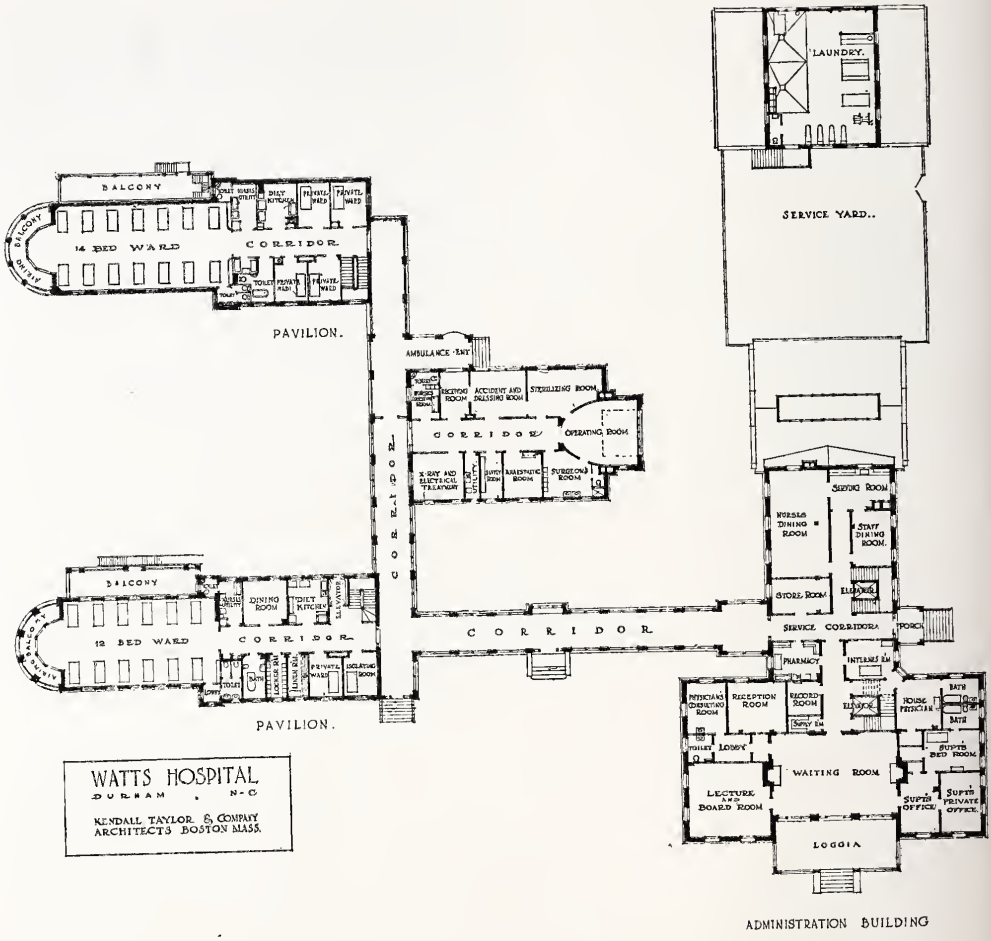
ELLISON HALL (NURSES' HOME), NEWTON HOSPITAL, NEWTON, MASS.
Kendall, Taylor & Co., Architects.



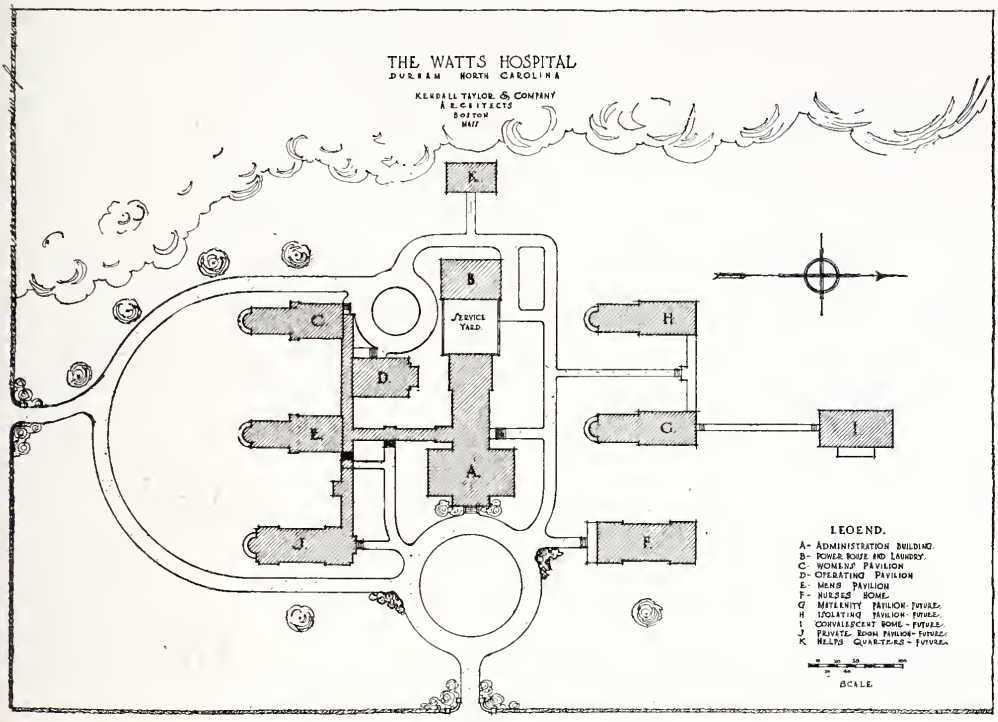
FOUNDER'S MEMORIAL (MATERNITY DEPARTMENT), NEWTON HOSPITAL, NEWTON, MASS.
Kendall, Taylor & Co., Architects.



GENERAL VIEW—WATTS HOSPITAL, DURHAM, N. C. KENDALL, TAYLOR & CO., ARCHITECTS.



FIRST FLOOR PLAN—WATTS HOSPITAL, DURHAM, N. C. KENDALL, TAYLOR & CO., ARCHITECTS.



BLOCK PLAN—WATTS HOSPITAL, DURHAM, N. C.
Kendall, Taylor & Co., Architects.



NURSES' HOME—WATTS HOSPITAL, DURHAM, N. C.
Kendall, Taylor & Co., Architects.



WAITING ROOM—WATTS HOSPITAL, DURHAM, N. C.
Kendall, Taylor & Co., Architects.



CONNECTING CORRIDOR—WATTS HOSPITAL, DURHAM, N. C.
Kendall, Taylor & Co., Architects.



BURBANK HOSPITAL, FITCHBURG, MASS.
KENDALL, TAYLOR & CO., ARCHITECTS.



J. B. THOMAS HOSPITAL, PEABODY, MASS.
KENDALL, TAYLOR & CO., ARCHITECTS.

and fifty patients. The airing balconies, shown in the photograph but not on the plans, are a subsequent addition designed for outdoor treatment.

The Wesson Maternity Hospital, in Springfield, Mass., was built from a legacy by D. B. Wesson, a prominent manufacturer of that city, to complement the Hampden Homeopathic Hospital, which he had erected during his lifetime. It cares for mothers and their babies, and represents the solution of a maternity hospital as understood eight years ago.

Another hospital designed primarily for maternity work is the Yonkers Homeopathic and Maternity. Intended originally to meet the need of a hospital for homeopathic physicians, who were not allowed to treat their patients in old school hospitals, it began in an old mansion, on the present site, to which was soon added an adjoining house, which for some years provided all the accommodation required. The corporation maintaining the hospital was composed exclusively of ladies, who hesitated before taking up the task of financing a new building. Finally undertaking it, they were surprised, shortly after erection of the edifice, by a legacy of several hundred thousand dollars from an unknown friend, who announced that "these women are doing something fine and I want to help them." The building stands on high ground, overlooking the Hudson and the Highlands on the opposite shore. It has accommodations for fifty patients, a children's department, maternity rooms, a delivery and operating department, isolation rooms, and a hydriatric department. Extensive additions are now being considered, and adjoining land has been acquired which will permit the adequate development of the institution.

The Newton Hospital, in Newton, Mass., started as a cottage hospital to meet the very evident necessities of a suburban city, is an example of how generous citizens rally to the needs of an efficient institution once established. Many of the buildings have been given to the hospital. Only two are illustrated here—namely, the Founders' Memorial, which was given in memory of the original supporters of the hospital and is devoted to maternity work, and the Nurses' Home, given by Mr. and Mrs. Frank A. Day, in memory of Mrs. Day's parents and therefore named Ellison Hall.

Durham, N. C., is a busy manufacturing town, a type of the New South, with thousands of people working in its mills and factories. For many years it had no provision for the sick and injured. Mr. Geo. W. Watts, a public-minded citizen, in 1890, built a small wooden hospital and gave it to the public with a suitable endowment. Fifteen years later the buildings of the institution had become too small, and again Mr. Watts responded to the demand. He purchased an ample site outside the city limits, erected several buildings and had drawn up a block plan providing for future additions. He has since built the Nurses' Home and a pavilion and has substantially endowed the hospital. The property is held by trustees for the town and county, and provides free treatment for any who cannot pay, the charges for others being very moderate. This is one of the leading hospitals in the South and many features of its plan have been adopted by other institutions.

The Burbank Hospital, at Fitchburg Mass., is one of the earlier types of separate one-story pavilions connected with a central administration building and operating pavilion.

The J. B. Thomas Hospital, at Peabody, Mass., is an interesting example of the small general hospital with all classes of service, help and staff included under one roof. It serves a town of considerable manufacturing interests in eastern Massachusetts.



LOOKING THROUGH ROSE ARBOR—RESIDENCE OF GEORGE C. BOWEN, ESQ., PUTNAM COUNTY, N. Y. LA FARGE & MORRIS, ARCHITECTS.

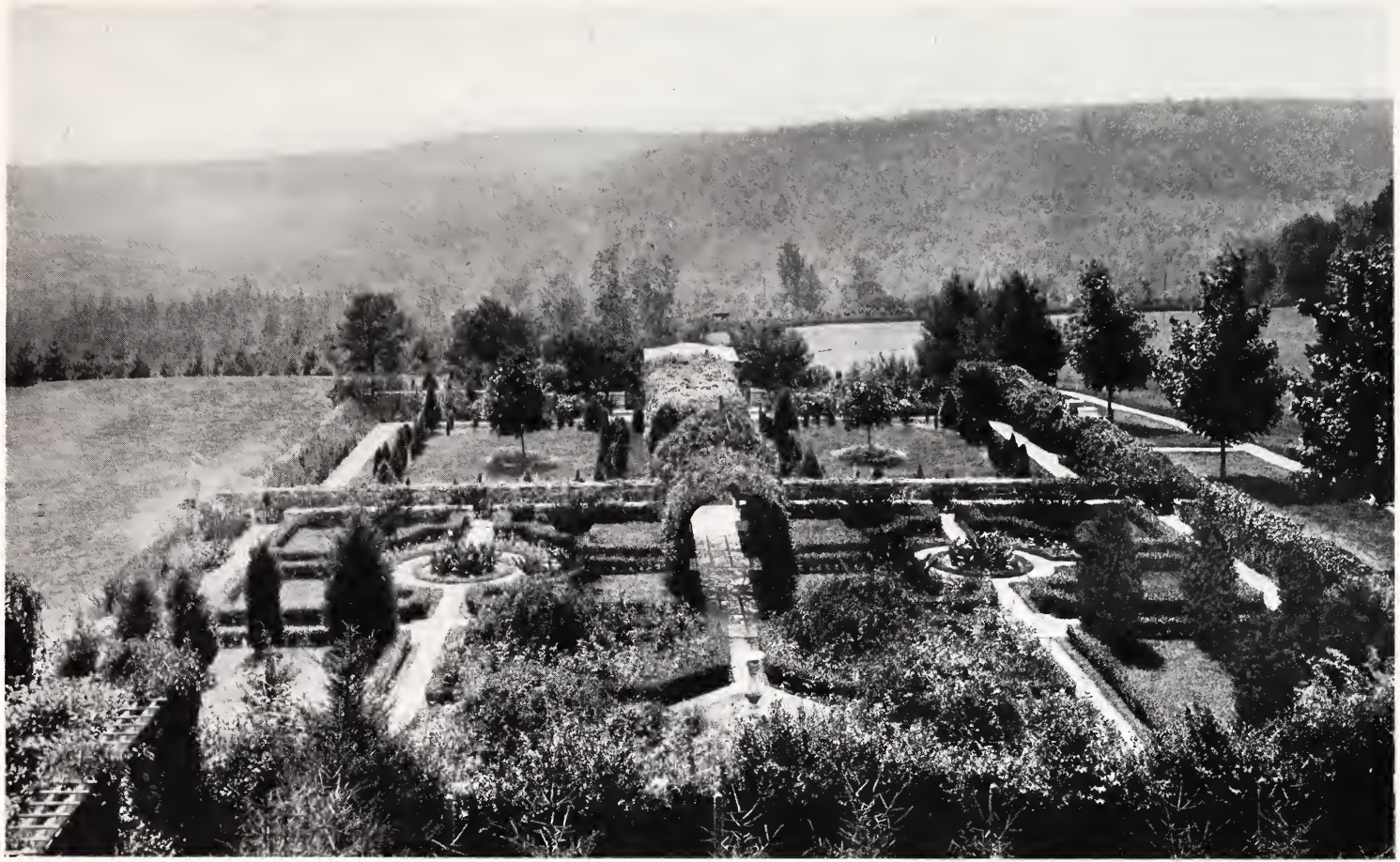
PORTFOLIO OF CVRRENT ARCHITECTVRE



VISTA THROUGH ARBORS—RESIDENCE OF GEORGE C. BOWEN, ESQ., PUTNAM COUNTY, N. Y. LA FARGE & MORRIS, ARCHITECTS.



VIEW OF ROSE ARBOR—RESIDENCE OF GEORGE C. BOWEN, ESQ., PUTNAM COUNTY, N. Y. LA FARGE & MORRIS, ARCHITECTS.



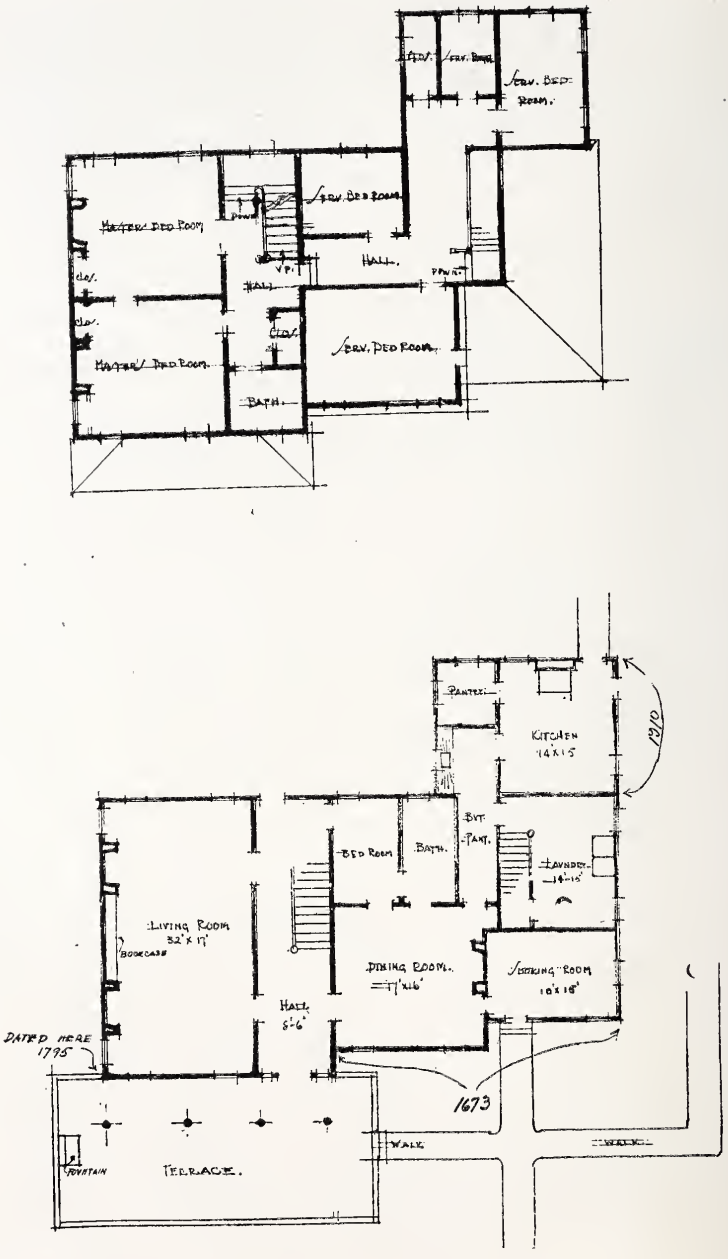
GENERAL VIEW OF GARDEN—RESIDENCE OF GEORGE C. BOWEN, ESQ., PUTNAM COUNTY, N. Y. LA FARGE & MORRIS, ARCHITECTS.



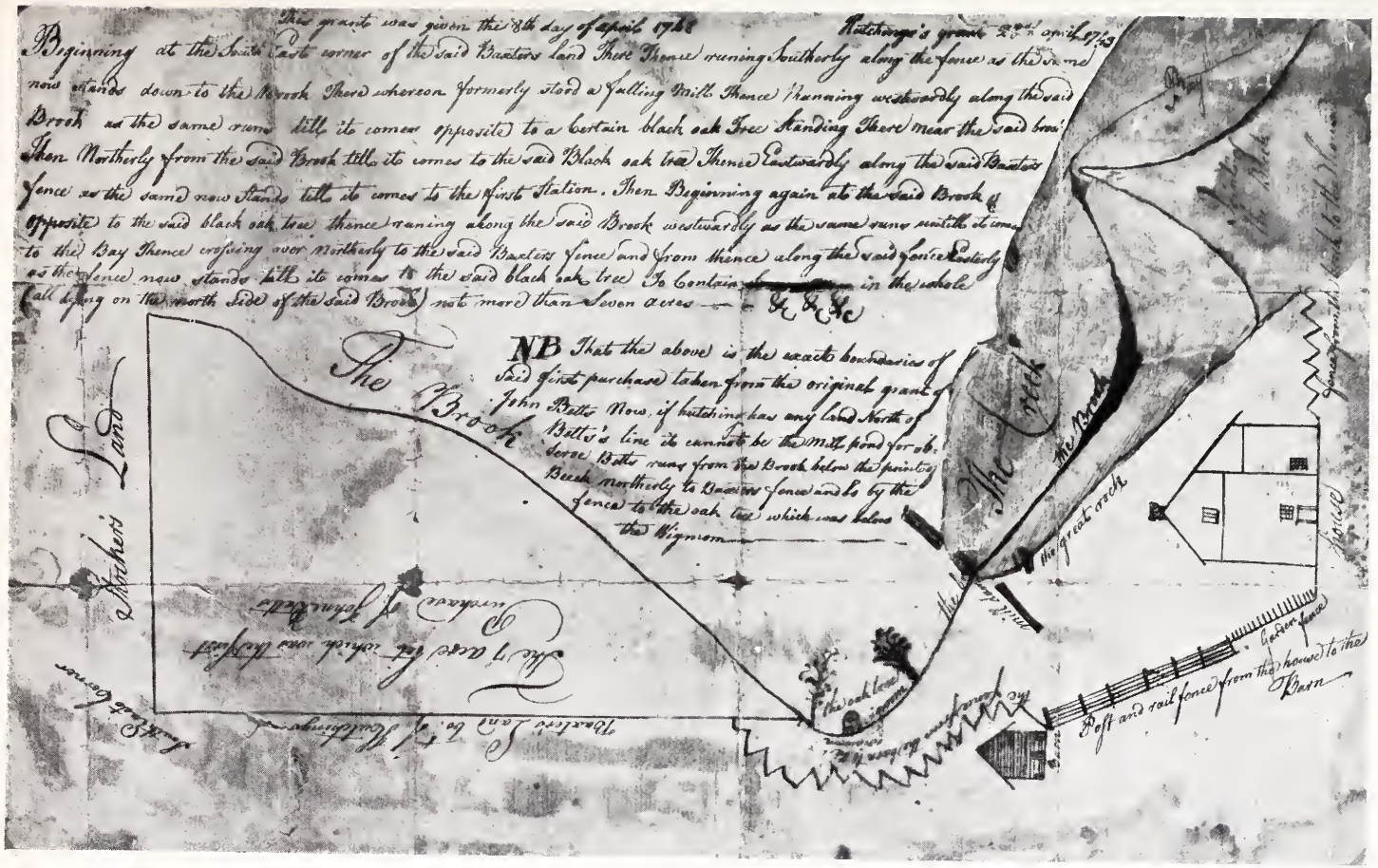
VIEW OF HOUSE FROM GARDENS—RESIDENCE OF GEORGE C. BOWEN, ESQ., PUTNAM COUNTY, N. Y. LA FARGE & MORRIS, ARCHITECTS.



THE OLD COW BAY MANOR HOUSE, WHITESTONE LANDING, L. I., NOW THE RESIDENCE OF ADDISON C. MIZNER, ARCHITECT.



FLOOR PLANS—THE OLD COW BAY MANOR HOUSE, NOW THE RESIDENCE OF ADDISON C. MIZNER, ARCHITECT, WHITESTONE LANDING, L. I. THE DATES ON THE FIRST FLOOR PLAN GIVE THE YEAR OF ERECTION OF DIFFERENT PARTS OF THE BUILDING.



SURVEY OF THE OLD COW BAY MANOR, WHITESTONE LANDING, L. I., MADE IN 1748 TO DECIDE A BOUNDARY DISPUTE,



THE LOW PART OF THE HOUSE WAS BUILT IN 1673, AND THE "NEW" PART IN 1795, ALTHOUGH THE DOORWAY WAS NOT PUT IN PLACE UNTIL 1812. ORIGINALLY, THE PORCH HAD A RAILING AND WOODEN FLOOR. THESE WERE REMOVED BY MR. MIZNER, WHO ADDED THE TERRACE, WHICH IS EIGHTEEN FEET WIDE, OR THREE TIMES THE WIDTH OF THE ORIGINAL PORCH.



ENTRANCE DETAIL—RESIDENCE OF ADDISON C. MIZNER, ARCHITECT, WHITESTONE LANDING, L. I. THE DOORWAY WAS BUILT IN 1812.



PORTICO—RESIDENCE OF ADDISON C. MIZNER, ARCHITECT, WHITESTONE LANDING, L. I. THE LITTLE WALL FOUNTAIN WAS ORIGINALLY A SPANISH STOVE, OF BLACK FAIENCE. THE COLUMNS AND CAPS DATE BACK TO THE ORIGINAL HOUSE.



DINING ROOM—RESIDENCE OF ADDISON C. MIZNER, ARCHITECT, WHITESTONE LANDING, L. I. THE HESSIANS USED THIS PART OF THE HOUSE AS THEIR HEADQUARTERS DURING THE BATTLES OF LONG ISLAND.



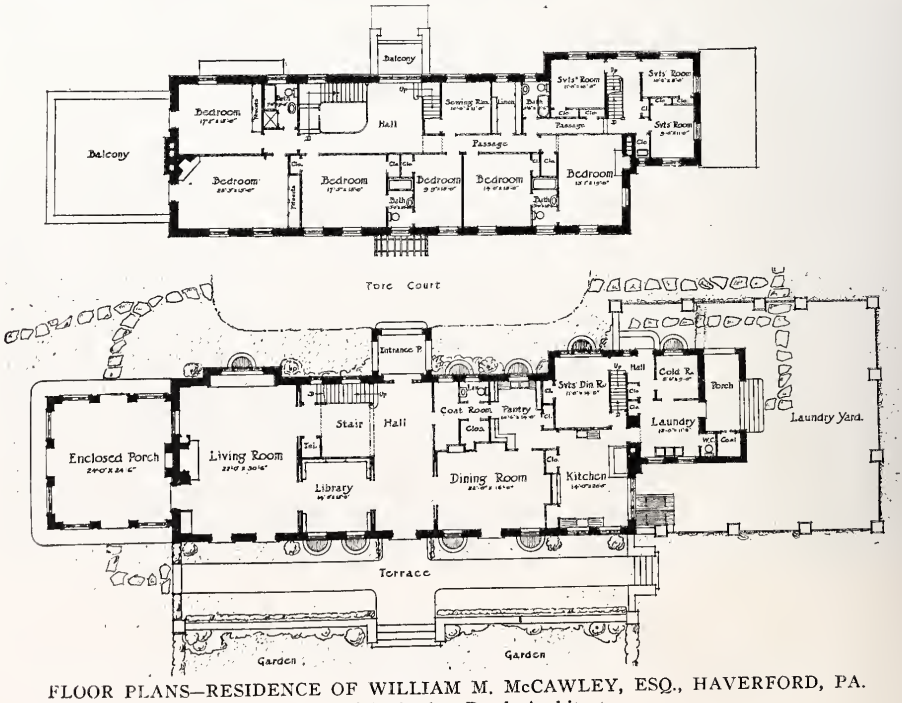
HALLWAY—RESIDENCE OF ADDISON C. MIZNER, ARCHITECT, WHITESTONE LANDING, L. I. THE PLASTERING OF THE HALL IS COLORED TO REPRESENT GRAY AND WHITE MARBLE. THE NATIVES SAY IT WAS ACCOMPLISHED BY RUBBING GUNPOWDER INTO THE ROUGH-FINISHED PLASTER.



NORTHEAST FRONT—ALLONBY, LAVEROCK, WHITEMARSH VALLEY, PA. JOSEPH PATTERSON SIMS, OF FURNESS, EVANS & CO., ARCHITECT.



GARDEN FRONT—RESIDENCE OF WILLIAM M. McCAWLEY, ESQ., HAVERFORD, PA.
D. Knickerbacker Boyd, Architect.



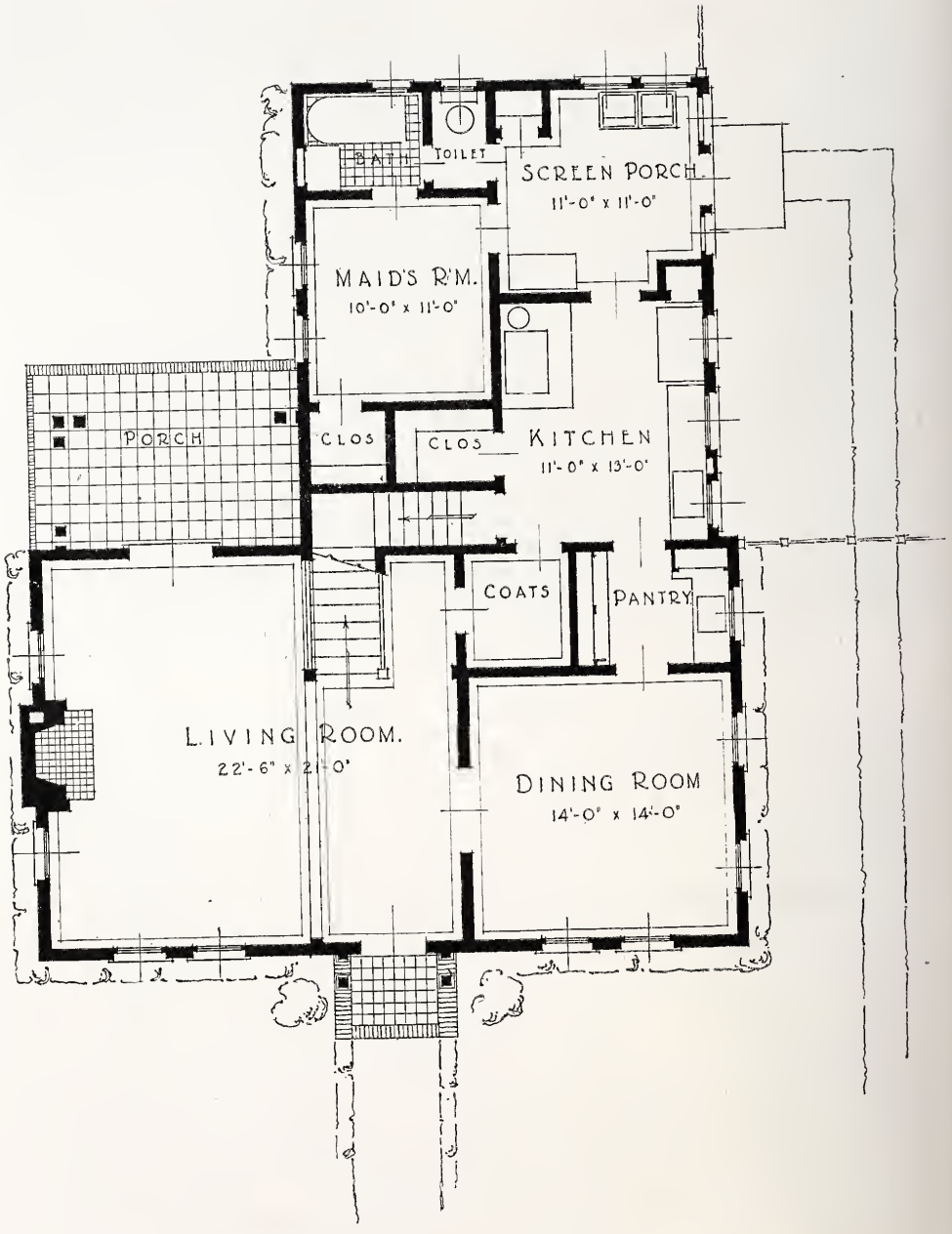
FLOOR PLANS—RESIDENCE OF WILLIAM M. McCAWLEY, ESQ., HAVERFORD, PA.
D. Knickerbacker Boyd, Architect.



STAIR HALL—RESIDENCE OF WILLIAM M. McCAWLEY, ESQ., HAVERFORD, PA.
D. Knickerbacker Boyd, Architect.



DINING ROOM—RESIDENCE OF WILLIAM M. McCAWLEY, ESQ., HAVERFORD, PA.
D. Knickerbacker Boyd, Architect.



FIRST FLOOR PLAN—RESIDENCE OF MRS. ALICE P. PAIGE.
PASADENA, CAL. REGINALD D. JOHNSON, ARCHITECT.



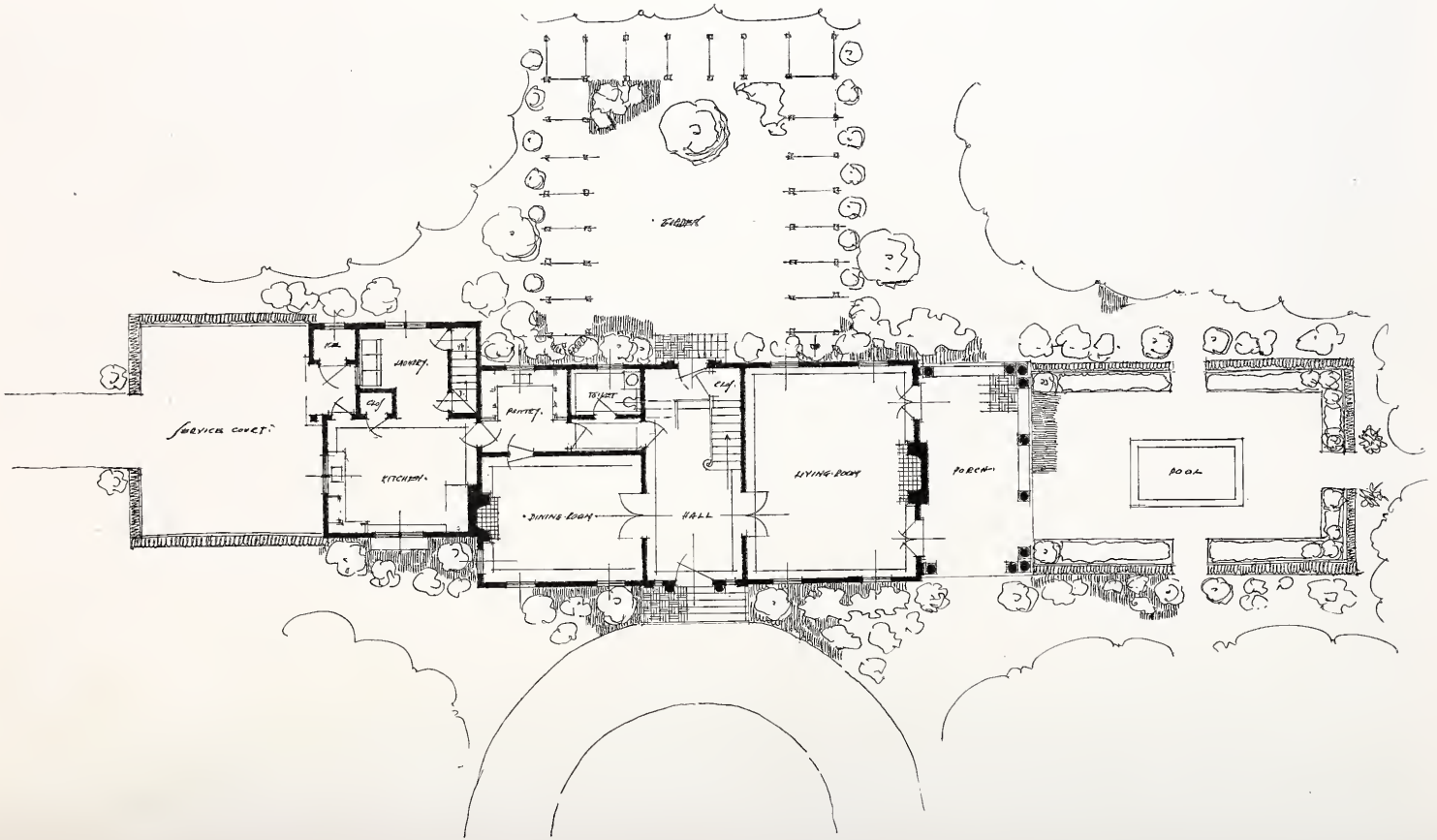
RESIDENCE OF MRS. ALICE P. PAIGE, PASADENA, CAL. REGINALD D. JOHNSON, ARCHITECT.



REAR VIEW—RESIDENCE OF MRS. E. L. WARNER, SYOSSET, L. I. J. W. O'CONNOR, ARCHITECT.



RESIDENCE OF MRS. E. L. WARNER, SYOSSET, L. I. J. W. O'CONNOR, ARCHITECT.



BLOCK PLAN—RESIDENCE OF MRS. E. L. WARNER, SYOSSET, L. I. J. W. O'CONNOR, ARCHITECT.



BLOCK PLAN—RESIDENCE OF H. W. WARNER, ESQ., SYOSSET, L. I. J. W. O'CONNOR, ARCHITECT.



RESIDENCE OF H. W. WARNER, ESQ., SYOSSET, L. I.
J. W. O'Connor, Architect.



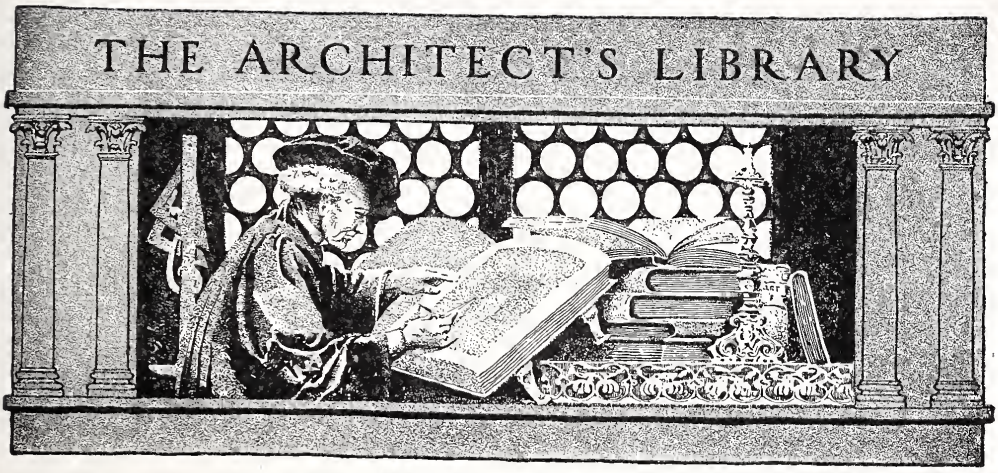
RESIDENCE OF H. W. WARNER, ESQ., SYOSSET, L. I.
J. W. O'Connor, Architect.



REAR VIEW—RESIDENCE OF H. W. WARNER, ESQ., SYOSSET, L. I. J. W. O'CONNOR, ARCHITECT.



RESIDENCE OF H. W. WARNER, ESQ., SYOSSET, L. I. J. W. O'CONNOR, ARCHITECT.



BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

Part V.—Furniture and Furnishings

FOR our present purposes the word furniture must be given a very comprehensive definition. It will be found necessary to revert in great measure to the original significance of the word; that is, we must include under furniture anything that furnishes, and disregard the narrow meaning given to the word in modern general use, in which it embraces only the portable items of mobiliary art. We must eliminate, on the other hand, all elements of a stationary character, such as doorways, mantels, hardware, stair rails and similar characteristic features, not to mention other provinces in which carved, wrought and modeled work come into play; and we must also ignore many objects of the minor arts, such as table service and ware of various kinds, pottery, glass, textiles and the like, which contribute so largely toward the delightful atmosphere of our old houses.

Under the heading of minor arts we have in preceding issues of The Architectural Record already listed and reviewed a number of works bearing upon Colonial craftsmanship, both in a general way and as illustrated more particularly in the smaller domains of pottery, of glassware and of silver and other metal work not distinctively architectural. Under the head of furniture, then, we shall indicate in the present paper the chief works dealing with the various mobiliary types and their use in furnishing, and those concerned with various kinds of carved, wrought and modeled work as used in the sense of architectural decoration. The importance of the specific field of Colonial furniture and furnishings warrants the repetition of a number of titles previously mentioned in other connections. This is especially encouraged by the always increasing interest in the heritage of the soil, and particularly the cult of the type of charm and domesticity so thoroughly inherent in Colonial forms and craftsmanship.

We may subdivide our study, viewed from the standpoint of the books to be considered,—for the moment making no distinction between furniture and furnishings,—into four parts. The first comprises general informative works dealing with history, criticism, type and

class of pieces and their use, and in a broad way with the decorative background of Colonial life. The second covers collections of photographs. The third embraces the paltry number of volumes whose authors have had the courage to explore the field from the instructive point of view of the scaled and measured drawing. The fourth includes the all too few works dealing with particular types of furniture pieces; and with these latter works we may group the limited number of monographs upon individuals and their work, outstanding figures of craftsmen who are chiefly responsible for the resource and expressiveness everywhere emanating from Colonial carving and workmanship, all bungling efforts of the uninspired carpenter notwithstanding.

Among the general informative works comprising the first division as above suggested, by far the best books are the following: Luke Vincent Lockwood's *Colonial Furniture in America,* in a new and greatly enlarged edition, with 867 illustrations of representative pieces (Folio; 2 vols., pp. xx + 334, ill., and pp. xviii + 307, ill. New York, Charles Scribner's Sons; 1913. $25); and Esther Singleton's *The Furniture of Our Forefathers,* with critical descriptions of plates by Russell Sturgis. (Quarto; eight parts with total of 664 pages and 346 plates and many text illustrations throughout; New York, Doubleday, Page & Company; 1900-1901. Out of print.) Both of these works are of sterling quality, considered both as to literary workmanship and as to presentation from the standpoint of bookmaking. They are admirably illustrated and so thoroughly cover the ground that the lack of any further publications in the furniture field might almost be condoned if only these are made available. The Lockwood volumes were first issued in much smaller compass in 1901, but now appear in a guise befitting the scholarly grasp of their author.

A book of this kind, maintaining so high a standard of performance, automatically becomes an example and sets a pace, as it were, for the entire field. We do not hesitate to accord the author and publisher alike the utmost credit for the quality of production manifested in this work. Our only suggestion for its improvement would probably be found inapplicable. In this and in a host of similar works containing text illustrations the reader is bound to complain of the great weight of the volumes. American paper and binding too often produce a too heavy volume; European books in many cases reach but one-half or one-third the weight. This is often due, of course, to the use of inferior papers for the text portions, to the elimination of text illustrations, to the use of lighter and more easily warped covers, to the use of thin cloth and other bindings that show wear out of all proportion to their age, and finally to the practice of restricting illustrations to separate plates of different paper stock. This method of making a book has its advantages, to be sure, although the lay reader is apt to seek his illustrations very near corresponding text references. However, these difficulties are usually of a kind that must be controlled chiefly by the character and importance of the publication in question, or in more concrete terms, by the amount of money appropriated therefor, for the returns still figure too largely in publishers' minds to warrant a thorough consideration of matters of æsthetic importance; when the latter are given due regard we may expect an era of altruism for which America is not quite ready, or else such a price label on all our books as to make even the humble bibliophile suffer from that inveterate enemy, the high cost of living.

The other excellent work above mentioned, that by Esther Singleton on *The Furniture of Our Forefathers,* was issued in eight parts, each of a size to warrant its binding as a separate volume. Each part bears a sub-title and is restricted in its treatment to a separate field. The first concerns early Southern carved oak and walnut of the seventeenth century (pp. xii + 75 and 42 plates); part two, later Southern oak, walnut and early mahogany (pp. xii + 76 to 152 and 37 plates); part three, early New England imported and home made pieces of the seventeenth century (pp. xii + 153 to 233 and 42 plates); part four, Dutch and

English periods in New York from 1615 to 1776 (pp. xii + 234 to 312, and 43 plates); part five, New England from 1700 to 1776—imported and home made pieces of the eighteenth century (pp. xvi + 313 to 400 and 50 plates); part six, Chippendale and other great cabinet makers of the eighteenth century (pp. xv + 401 to 484 and 46 plates); part seven, domestic and imported furniture from 1776 to 1830 (pp. xiv + 485 to 568 and 43 plates); and part eight, woods, upholstery and styles of the early nineteenth century (pp. xiv + 569 to 664 and 43 plates, index).

One criticism of this series of parts is that the text becomes at times somewhat discursive; obviously, whatever there is of this character in the work, must be intentional and undoubtedly finds its appeal in certain places. Unfortunately our attitude in these papers compels a preference for a distinctively orderly mode of presentation, subject, to be sure, to the other criticism that the books we have most highly commended in these pages will be found from time to time to be too unimaginative or dry for any but the architectural student and the limited number of the serious *cognoscenti.* Nevertheless the Singleton book bears our unqualified commendation. However, the value of both this and the Lockwood books will surely be increased for the architect and furniture designer when used in conjunction with certain books of measured drawings to be noted in the following paragraphs. *The Furniture of Our Forefathers* has recently been republished in much smaller format, but in actual duplication, page for page and plate for plate, of the text and illustration contents of the first edition. This judicious step on the part of the publishers will bring this valuable volume within reach of many for whom formerly the eight-part work proved too expensive, and furthermore the new volume is a much handier book for ready use. (Imperial octavo; pp. and pl. as for larger edition. Garden City, L. I.; Doubleday, Page and Company; 1916. $1.80.) This publication should find extensive use, despite some inferior reproductions made necessary by the price reduction.

Another group of volumes of decided interest and value, but with one exception, perhaps, again eschewing the measured drawing point of view, is that composed of Harold Donaldson Eberlein and Abbot McClure's *The Practical Book of Period Furniture,* treating of furniture of the English, American Colonial and Post Colonial and Principal French Periods (Octavo; pp. 371 and 66 plates, many text illustrations. Philadelphia; The J. B. Lippincott Company; 1915. $6); Irving Whitall Lyon's *The Colonial Furniture of New England in Use in the Seventeenth and Eighteenth Centuries* (Small quarto; pp. xii + 285, and 113 plates. Boston; Houghton, Mifflin and Company; 1891); Mr. N. Hudson Moore's *The Old Furniture Book, with a Sketch of Past Days and Ways* (Octavo; pp. vi + 254; many illustrations. New York; Frederick A. Stokes Company; 1903. $2.50), and Frances Clary Morse's *Furniture of the Olden Time* (Octavo; pp. xvii + 371, many illustrations, index. New York; The MacMillan Company; 1913. $3).

The first of these volumes, that by Eberlein and McClure, is distinctly a practical book of the practice of design in the "periods" of furniture it covers; it carefully adheres to a succinct grouping of characteristics and indicates easy methods of classification and identification, throughout suggesting a careful predigestion on the part of the authors, as the latter justly claim. As we have elsewhere pointed out (see notice of this book in the June, 1916, number of The Architectural Record), the most attractive feature of the book is the illustrated chronological key preceding the text. This is a series of nineteen plates containing on both sides well selected groups of objects indicating definite stylistic tendencies. Each plate bears as title a style name with inclusive dates, a suggestion of the chief materials in which furniture of that time was built, and a page reference to the text. Referring to the pages cited, the reader finds a chapter whose heading accords with that of the plate in the key.

We are glad to emphasize especially the attention granted in this work to sec-

tions and profiles of details, which might with profit be given much more serious attention in many a publication devoted to furniture. It is our contention that many of the books destined either for the layman or for the expert in the first instance may be made more valuable if more material of technical or closely descriptive character were to be inserted for the former and more of general description or history were to be included for the latter. However, it seems that the layman consequently shies at the least vestige of a drawing which is not a sketch or at least a perspective and flatly denies all knowledge of the significance of the words elevation and plan, and, above all, section, which latter he regards as utterly inscrutable; while, on the other hand, the expert and artist dismisses too readily with a shrug all books which even a tutored layman can understand, as though to share his knowledge with the layman made him unclean as a designer.

The book by Lyon above included is a praiseworthy piece of work, limiting itself, however, to the New England area. Its seven chapters are headed with the names of the seven chief items of Colonial furniture, chests, cupboards, chests of drawers. desks, chairs, tables and clocks; beds alone are not considered, but the question of the design of the piece in so far as this concerns woodwork and especially wood carving here plays a smaller part, since the frame of the bed in our early times usually was concealed beneath a wealth of hood or canopy, valance and other draperies. In the other types of pieces shown the various methods of carving and other surface decorations are clearly reproduced, so that the illustrations achieve a particular value for this reason.

It might be interesting to note at this point that the author is a physician and that his work in the furniture field is due to a parallel interest; while Mr. Frederic William Hunter, whose fine book on *Stiegel Glass* was reviewed some time ago, is a New York lawyer. Unfortunately few of us ride our hobbies so well. Both of these gentlemen are to be highly commended for their good work of enlightenment, and both have succeeded admirably. It is a good indication that each has seen to it that his text shall present a sterling calibre and high quality of English and that his illustrations shall be many and good. The Hunter book contains plates in color, autochromes by J. B. Kerfoot; and the volume on New England furniture by Mr. Lyon presents no less than 113 exceptionally clear plates. The latter might serve as a splendid example of good reproduction and press work for many another book that must deal with so many objects decorated in complex design, easily lost in reproductions, requiring reduction down to even quarto proportions, not to mention the difficulties of pages of octavo or less.

Very good within the small compass allotted them are the other two volumes included in this group, Moore's *The Old Furniture Book* and Moore's *Furniture of the Olden Time*. Both make a more or less popular appeal, but assuredly this cannot be a fault if the misnamed popular aspect be properly construed. No greater service can be rendered by any book than to popularize a form of art, and both of these volumes are popular only in so far as they seek to make their field interesting to the layman without undue stress upon details of manufacture or the technical intricacies of design and materials. They are books that the architect can read with profit.

In both cases the chapters of the works are given for titles the names of individual pieces, a method that is, of course, the first to suggest itself when so many different types of objects may be classed under a general inclusive term. What is more, this mode of treating the subject of mobiliary art is a thoroughly reasonable one, especially for our purposes, because detailed variations may be granted more adequate notice, and, when mentioned, are bound to receive better attention than would be accorded them if noted as part of a general discussion covering a variety of motives or pieces. It should be noted in passing that, quite obviously and as their titles indicate, all works mentioned in these pages are not concerned exclusively with furniture in the sense of portable objects, nor do they

all restrict themselves to Colonial furniture. In all cases the study of either furniture or furnishing demands a certain amount of complementary reference to all elements contributing to decoration in order to give due weight to the discussion in hand, or else the effect is that of the frame without the picture or *vice versa*.

We are of the opinion that the modern public can make use of many volumes written along the lines of the last two noticed, and this is especially impressed upon those of us whose walks in life prompt an observation of the growth of public taste. For such students of civilization it is quite clear that public taste has improved within the last ten or twenty years at a rate far in excess of that demonstrated by any corresponding period in our national history. One of the most salutary evidences of this growth of taste is to be seen in the improvement in interior decoration, notably in arrangements disposed according to so-called periods or styles; another manifestation is that connoted by the always increasing desire to give the old Colonial type of furniture and furnishing an adequate opportunity to carry through its logical development on its own soil, and without regard to the various interloping style vagaries harbored by an æsthetically ill-starred nineteenth century; and finally, perhaps the best indication of the growth of public taste as suggested along either of the directions just noted, is to be seen in the greatly increased number of persons who regularly visit art libraries, museums, and art collections exhibited before their public sale, and in the serious study given to periodicals, especially in the field of architecture and decoration, by the allegedly ignorant layman, who, we shall soon be obliged to admit, was maligned by artists and critics for perhaps a decade while he sought in a quiet manner the proper means of improving himself.

Our review of this field of the general books would not be complete without due mention of several volumes whose titles give prominence to the word architecture, but whose contents cede the necessary space for short treatments of furniture. Obviously any historical or otherwise comprehensive survey of the field of Colonial architecture must include an account of interiors and, to a great extent, likewise of doors and doorways, mantels, stairways, paneling and possibly even metal work. Especially valuable from this point of view are Harold Donaldson Eberlein's *The Architecture of Colonial America* (Octavo; pp. xiv + 289, illustrations, index. Boston; Little, Brown and Company; 1916. $2.50), an excellent volume of its kind and the pioneer general history of Colonial architecture; Aymar Embury's *The Dutch Colonial House, Its Origin, Design, Modern Plan and Construction* (Large octavo pp. 6 + iv + 108, ill. New York; McBride, Nast and Company; 1913. $2), which covers a limited field, restricting itself to one type only, but which happily covers the furniture types available for the style discussed; Mary Harrod Northend's *Colonial Homes and Their Furnishings* (Crown octavo; pp. xxi + 252, ill., and 117 plates, index. Boston; Little, Brown and Company; 1912. $5), a fine piece of research with thoroughly interesting illustrative material; the same author's *Historic Homes of New England* (Crown octavo; pp. xvi + 274, ill., and 95 plates, index. Boston; Little, Brown and Company; 1914. $5), which likewise deals largely with furniture backgrounds; and, finally, Herbert C. Wise and Ferdinand Beidleman's *Colonial Architecture for Those About to Build,* being the best examples—domestic, municipal and institutional—in Pennsylvania, New Jersey and Delaware, with observations upon the local building art of the eighteenth century (Square crown octavo; pp. xv + 270, with 207 ills. Philadelphia; The J. B. Lippincott Company; 1913. $5), which is a thoroughly useful volume from the point of view of our present study, the illustrations being particularly clear. All of these volumes have been noticed at length in earlier parts of this series of reviews on the literature of Colonial architecture.

Of interest likewise, with regard to furniture backgrounds and the æsthetic side of furnishing as a decorative art, are two other classes of books, namely, those

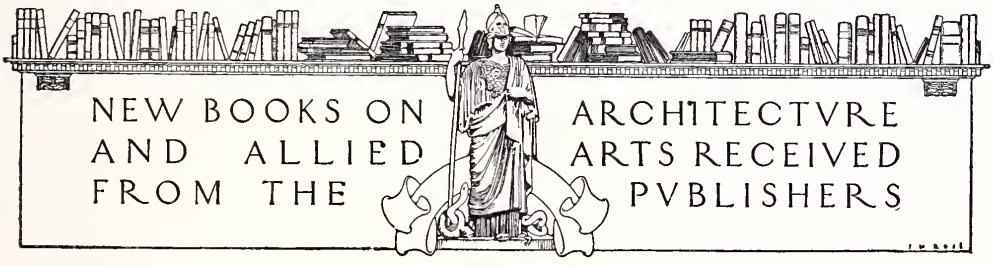
devoted to interior decoration and to the so called "periods" in furnishing, and those of a thoroughly popular but none the less informative type that have been referred to as "chatty" books. In the first class we might mention, by way of example only, for there are quite a number of works that might be grouped with them, Helen Churchill Candee's *Decorative Styles and Periods* (Octavo; pp. xii + 298, ill., New York; Frederick A. Stokes Company; 1906. $2.15), and Virginia Robie's *Historic Styles of Furniture* (Square octavo; pp. viii + 196, many ills. New York; The Houghton, Mifflin Company; 1916. $3). Books of this kind cover a province that offers a special sphere of activity for women, and the names of their authors will be found to be largely those of women. Unfortunately too many books of this kind are but regurgitations, compilations of material from the same time-worn sources, with a minimum addition of personal or characteristic viewpoint. Both of the volumes just mentioned will be found to have a more lasting value than the majority of their compeers because of the point of view adopted and because of the good English used as a vehicle. We might, of course, extend the list of books on decoration *ad infinitum,* but the specific Colonial viewpoint, even as maintained in one or two chapters, is soon lost in the melée of the battle of the styles.

The second group of possible additions to our list is of the type of *The Quest of the Colonial* (Octavo; pp. ix + 425, ill., with many photographs, and with decorations by Harry Fenn. New York; The Century Company; 1907. $2.40), by Robert and Elizabeth Shackleton, or by the same authors, *The Charm of the Antique* (Octavo; pp. viii + 300, many ills. New York; Hearst International Library Company; 1914. $2.50). The first of these is a narrative of personal experience and gathers interest for that reason; the second is a more serious study, or at least appeals to us in that manner. Both will merit the attention of the reader of these pages; their seeming discursiveness will prove in the end a meritorious and engaging characteristic. The former subdivides its subject matter first in accordance with localities visited in the quest for original Colonial objects of the minor arts ultimately to be used in furnishing the author's residence, itself an old-time house, and secondly, according to the individual rooms decorated showing correct stylistic adaptations in furnishing, using original pieces almost exclusively. There is in each of these volumes an interesting discussion for collectors concerning the troublesome matter of fakes and how to detect them. There is also a good index in each and the illustrations are plentiful and of good quality. We cannot help wishing, however, that in most cases of reproductions of the minor arts, fewer pieces were grouped together on a single plate; and furthermore, that some indication of actual sizes be given the reader by the use of a scale to aid his visualization. It is high time that readers themselves grasped the significance of the simple, direct and altogether useful expedient of the scale indicator at the corner of a plate to show the degree of reduction necessary when the picture was taken. In all types of fine art objects, especially those including the third dimension, the matters of comparative sizes and of proportionate relations adhered to in distribution of objects are of the utmost importance, and our books too frequently leave the visualization of true sizes entirely to the reader or confuse him by figures in the text, which, in the case of the lay reader, especially, must be checked up by dimensions within his experience. This difficulty is of much smaller import, of course, for the designer or architect for whom practical considerations make a constant reference to sizes obligatory; yet the professional designers are the first to appreciate the aid of scale indication in illustrations.

The second volume by these authors weaves a befitting halo about the subject of the antique with reference chiefly to its charm and the reason for its appeal, which the writers analyze from various angles, basing their discussion upon their own well trained appreciation and arousing in the reader an unconscious enthusiasm which has, perhaps, long been

latent within him, as it is in most cultured persons among us, even though we may foster no decided art interest. The illustrations in this volume are of surpassing quality, higher in this respect, in fact, than one usually finds in works of this price and general appeal. It is a wise publisher who decides that the best plates and reproductions are none too good for the book destined to elevate our national appreciation and enjoyment of the beautiful, especially the beautiful as illustrated in the works of our own early history. We heartily commend both of these volumes by the Shackletons for their general make-up, their point of view, their understanding treatment of a fascinating field and, last but most important, their excellent literary style, the vehicle which carries home to the intelligent reader the author's own pleasure in the charm and savor of our early craftsmanship.

Perhaps we should here mention once more Mr. Walter Alden Dyer's *The Lure of the Antique* (Octavo; pp. xii + 499, many ills. New York; The Century Company; 1916. $2.40), and also Harold Donaldson Eberlein and Abbot McClure's *The Practical Book of Early American Arts and Crafts* (Large octavo; pp. 339, many ills. Philadelphia; The J. B. Lippincott Company; 1916. $6), both of which were reviewed at length in the January number of The Architectural Record and were then, and properly, regarded as the best inclusive works on the general subject of all the minor arts in Colonial times and the formative years that immediately followed.



A History of Ornament, Ancient and Medieval. By A. D. F. Hamlin. 40 ills. and 22 plates, 392 pp., 5¾ by 8½. New York; The Century Co. $3 net.

Lombard Architecture. By Arthur Kingsley Porter. Volume II., Monuments: Abbazia di Albino, Milan. 675 pages, 7 by 10½. Volume IV., portfolio of 244 plates. New Haven; Yale University Press.

City Residential Land Development: Studies in Planning. Edited by Alfred B. Yeomans. 75 ills., 138 pp., 9 by 12. Chicago; the University of Chicago Press. $3.

Building Code Recommended by the National Board of Fire Underwriters. 4th Edition, completely revised, 1915; 45 ills., 326 pp.; 5 by 7½. New York; National Board of Fire Underwriters.

George Edmund Street: Unpublished Notes and Reprinted Papers with an Essay by Georgiana Goddard King. 13 ills., 345 pp., 5½ by 8½. Publication of The Hispanic Society of America, No. 100. New York; G. P. Putnam's Sons. $2.25 net.

Dwelling Houses: A Code of Suggestions for Construction and Fire Protection. Recommended by the National Board of Fire Underwriters; 21 plates, 115 pp., 6 by 9. New York; National Board of Fire Underwriters.

Hospital Sketches. By Robert Swain Peabody. 24 ills., 95 pp., 5½ by 8¼. Boston and New York; Houghton, Mifflin Co. $1.50 net.

The Garden Blue Book. A Manual of the Perennial Garden. By Leicester Bodine Holland. 200 ills. and color chart, 425 pp., 7 by 10 inches. Garden City, N. Y.; Doubleday, Page & Co. $4 net.

Handbook for Architects and Builders. Published under the Auspices of the Illinois Society of Architects. Volume XIX, 1916.



Style in Men and in Architecture.

One hundred and fifty years ago Lord Chesterfield, in his famous precepts on refinement and good manners, addressed to his son, made use of the following comparison, which was readily appreciated in an age when every man of breeding was supposed to be well grounded in the art of architectural design:

"I dare say you know already enough of architecture to know that the Tuscan is the strongest and most solid of all the orders; but at the same time it is the coarsest and clumsiest of them. Its solidity does extremely well for the foundation and base floor of a great edifice; but if the whole building be Tuscan, it will attract no eyes, it will stop no passengers, it will invite no interior examination; people will take it for granted that the finishing and furnishing can not be worth seeing, where the front is so unadorned and clumsy. But if upon the solid Tuscan foundation the Doric, the Ionic and the Corinthian orders rise gradually with all their beauty, proportions and ornaments, the fabric seizes the most incurious eye, and stops the most careless passenger, who solicits admission as a favor, nay, often purchases it. Just so will it fare with your little fabric, which at present I fear has more of the Tuscan than of the Corinthian order. You must absolutely change the whole front or no one will knock at the door. The several parts which must compose this new front are elegant, easy, natural, superior good breeding; and an engaging address; genteel motions; an insinuating softness in your looks, words and actions; a spruce lively air and fashionable dress; and all the glitter that a young fellow should have."

While Lord Chesterfield selected what he considered to be good architecture as the model on which his son should base his appearance and deportment, it remained for the late John Wellborn Root, an architect who, in his private life, exemplified all these qualities, to offer the converse of this proposition to the young and aspiring architects of the Chicago Architectural Club in 1887. In a paper on "Style," he showed how similar qualities in a man should be the models for works of architecture that are to be the embodiments of "style," in the broadest meaning of that word. It therefore is evident that such qualities are coördinated with regard both to men and architecture in the opinion of these authorities. For Mr. Root said as his opening proposition:

"The arts, architecture among them, have been called polite. Perhaps, in the earlier stages of the polite arts, architecture takes precedence of all others. Painting and sculpture began their career with no distinct debt to humanity; but architecture was, at its birth, shouldered with a large obligation, which it was in decency compelled to pay. Every house built to shelter man from the elements was a thing not to be avoided by its neighbors. It not only partially shut out from them grass and trees, and sun and sky, but, by virtue of its very bigness and fixity, it became, whether a thing of beauty or not, a thing of prominence. This fact has caused architecture to be defined as the 'politeness of building.'

"Accepting this definition as sound, let us note some of the qualities which we find in a gentleman, as we understand the term, and see if they are not equally applicable to good buildings. These are: Repose, refinement, self-containment, sympathy, discretion, knowledge, urbanity, suavity, modesty."

Then he enlarged on each of these propositions.

Repose.—Quietness of body and mind; not phlegmatism, but enforced quietness, as in the poise of a gladiator. The mind be-

comes finely receptive when held in this calmness of attitude.

Refinement.—In which all things tend toward the loss of asperity, not loss of power nor of value; gaining in that smoothness of surface, that crystallineness of composition which gives added currency and beauty to the thing refined.

Self-containment.—Which avoids a too-ready utterance of the momentary thought; which spares other people a swift infliction of all of our knowledge; which inwardly debates before answering grave questions.

Sympathy.—Which "puts yourself in his place"; which readily accepts a point of view; which quickly adjusts itself to its environment; which gives gravity for gravity, lightness for lightness, tears for tears, laughter for laughter.

Discretion.—Which seeks always the fitting thing to do, thus supplementing sympathy; which holds its tongue when speech is unnecessary; which knows nothing when forgetfulness is a virtue.

Knowledge.—The care of speech; the loving selection of words; the scrupulous nicety of grammar, the fullness of idea of illustration that decorates each subject touched.

Urbanity.—As the name suggests, a quality begotten in cities.

Suavity.—The faculty of avoiding friction; the knack of easily getting about in crowds of men; the attitude of deference to their weaknesses; the power, without creating offense, to ward off their aggression.

Modesty.—Without which all other good qualities may become offensive. Not affected modesty; not Uriah-Heepness, but the genuine self-esteem which, in justly valuing self, puts as well a just value on others, and thus confesses that self is small in many comparisons.

"Now, what are these qualities in men that they are not in buildings? Their sum total makes a perfect gentleman. The sum total of their analogues makes a perfect building. You may leave out several of them from a man's composition, and still leave him a very good fellow; so from buildings a number of these elements may be omitted and still the design not be utterly damned."

This was said nearly thirty years ago. Most of the young men addressed are now in middle age and active practice, and it would be interesting to know how far the precepts laid down by Mr. Root have been fulfilled in actual practice. P. B. W.

Old Chimney Cupboards.

The chimney cupboards found in old time houses vary all the way from a mere recess, sometimes without even the protecting door, to a most carefully designed architectural feature. The typical early chimney, in rooms with a capacious fireplace, narrows markedly as it extends toward the roof. Most of the old chimneys start from the cellar, either from a solidly built foundation or an arch with heavy side walls, the arch itself forming a convenient space for shelves. In the case of one noteworthy exception which has come under my notice, the chimney starts from a ledge about four inches wide and eight feet long, built into the cellar wall; from this narrow ledge the chimney arches upward and forward till it strikes a heavy beam about five feet from the cellar wall, and from this insecure foundation it rises to the roof.



ACCORDING TO TRADITION, THE DECORATION ON THIS CUPBOARD WAS MADE BY A CHANCE VISITOR IN PAYMENT OF HIS BOARD BILL.



THIS FORM OF CUPBOARD, BESIDES BEING USEFUL, FURNISHED AN INEXPENSIVE DECORATION FOR THE CHIMNEY BREAST.



UPPER AND LOWER CUPBOARDS WERE FREQUENTLY LINED INSIDE WITH WOOD TO COVER UP THE ROUGH CHIMNEY BRICKWORK.

The fireplace did not, as a rule, occupy entirely the immense width of the chimney; space was left on one or both sides for a small cupboard, which the housewife found very useful in the severe winter climate of the North. Frequently, however, the cupboard was a later contrivance. The great open fireplaces were enormous devourers of wood. The nearby forests were being rapidly thinned out, even in the early days; and this led to economy in the use of wood. Fireplaces were made smaller to conform to the necessities brought about by the dwindling forests. A reduction in the size of the fireplace was accomplished by building on each side of the opening a breastwork of brick, from the edges of which side walls were built extending backward and somewhat inward to the rear wall or fireback. These inner side walls, in many cases, were run up some feet and then left open at the top, thus forming with the remaining walls a well at the side of the fireplace.

Not infrequently this well was arched over from front to back, and here was the beginning of a chimney cupboard. All that was necessary was to break into the exterior wall, arch over the top of this opening and the cupboard was formed. A few shelves and a door were added, and a more finished product was then had. More often than not a middle arch was inserted, making an upper and a lower cupboard, both of which were found most useful in the household economy. Eventually, however, some of them were abandoned by the thrifty housewife as dirt traps; more commodious conveniences took their place and they were bricked up or otherwise covered in and forgotten, only to be discovered by accident when repairs are being made.

GEORGE W. NASH.

Editor of The Architectural Record:

I have to inform you that the Government installed 14th November, 1916, has now, because of war conditions, indefinitely postponed the reception of designs in the Federal Parliament House Architectural Competition.

The Minister has arranged for the registration of competitors to be retained, and states that it is intended to complete the adopted programme as soon as the time is opportune. Yours faithfully,

W. B. GRIFFIN,
Federal Capital Director of Design and Construction.

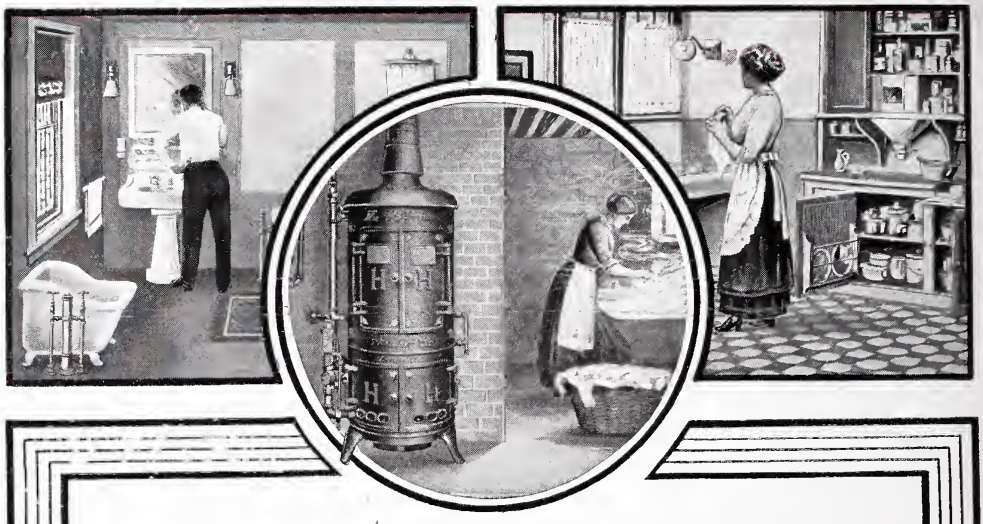
Melbourne, Australia, Dec. 13, 1916.

The Architectural Record

April 1917

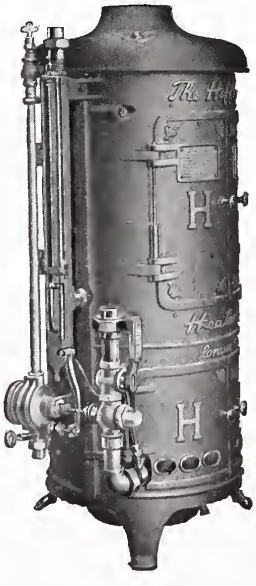


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THE ARCHITECTVRAL RECORD

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FIG. 1. FIREPLACE IN LIBRARY—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS. MARSHALL & FOX, ARCHITECTS.

THE ARCHITECTVRAL RECORD

VOLVME XLI NVMBER IV

APRIL, 1917

RESIDENCE OF MRS. H. L. JUDD MINNEAPOLIS

MARSHALL & FOX, ARCHITECTS

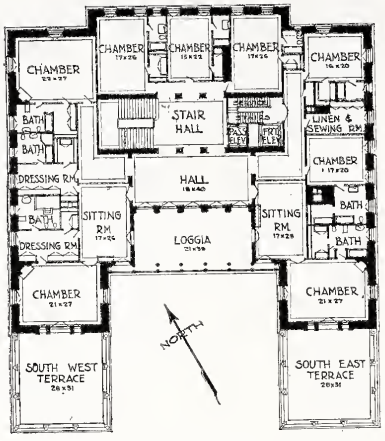
By PETER B. WIGHT

THERE has recently been erected in Minneapolis a private residence which, because of its accurate reflection of the method of planning and design followed in Italy in the sixteenth century, can safely be called an Italian villa. It overlooks the Lake of the Isles and fronts on the Lake of the Isles Boulevard, which passes between it and the lake. It is at one corner of a plat which includes an entire city square, except a corner where there are two other city residences. The remainder of the plat is laid out as a garden, which is still unfinished.

The location of the house is in a sense unfortunate. While the site is large for a city house, it is not large enough for a villa of such a size as this. If the house were located in a park, as it would have been in Italy in the sixteenth century, the design would be in conformity with its surroundings; it would not have the effect of dwarfing neighboring buildings and it would not have been necessary to overcome differences in topography, as has been done so skillfully in this case.

We must therefore consider the house only as a city residence on a rather circumscribed site at the corner of two streets, with a somewhat extensive garden. This garden varies a full story in its topography; only one side of the house rises from the street at grade, and this street is the less important of the two on which it fronts. This street is therefore used as the practicable entrance to what is called the ground floor, the earth being banked against three other sides of this story, except where a grand escalier has been provided on the boulevard side fronting the lake, by which one can ascend to the first floor of the house (see Figs. 6 and 7).

All of this has involved a very difficult and skillfully executed problem in planning. If one should ask "Why build such an expensive house there?" the



SECOND FLOOR PLAN

RESIDENCE OF MRS. H.L. JUDD MINNEAPOLIS MINN.

Figure 4

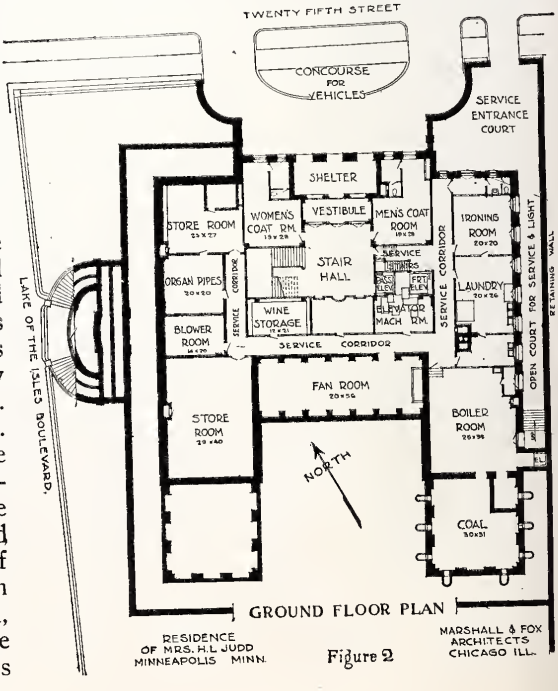
MARSHALL & FOX ARCHITECTS CHICAGO ILL.

reply is evident to anyone who knows that building sites in the lake region of Minneapolis are very scarce. The great asset of Minneapolis is that it has several natural lakes within the city limits, and these afford splendid prospects from all the surrounding houses. The high grounds that border on them are most in demand and the outlooks are magnificent. Two views from the Judd house are given in the illustrations herewith (Figs. 18 and 19), and it was on account of these that the site was selected. They may be seen from the main story and from numerous terraces and loggias. An examination of the ground and floor plans will help to make this clear (Figs. 2, 3, 4 and 5).

The architectural features of the house are equally prominent on all four sides; there is no front and no rear, although the house is bounded by the Lake of the Isles Boulevard on one side and by Twenty-fifth street on the other. There are entrances on both streets. That from the Boulevard is the grand escalier, and is of stone carried up on the outside from the street to the first floor, the ground being terraced upon both sides of it. The entrance from Twenty-fifth street is on the ground floor level, and is the one which will be principally used. There carriages and automobiles can drive up directly to the three wide openings under a bronze marquise into the shelter of the main wall of the house (Fig. 2). Here are all the reception rooms, the elevator and the beginning of the grand stairway, which goes to the third story.

If this house has any front it is toward the garden on the opposite side, for here the first floor is on a grade only a step above the formal garden (Fig. 9). It is on this side that all the most domestic rooms, loggias and terraces are located, and this is the most southerly exposure. Thus it will be seen that the house is admirably and most ingeniously adapted to the site chosen for it.

We are now in a position to consider its architecture, which is Italian Renaissance of the sixteenth century and conformable with the style used in the many villas erected by cardinals and wealthy grandees at the time of greatest prosperity of the Roman provinces—a period when the Renaissance had assumed the consistency of a "style" for the first and only time in its history, when Rome, Florence and Genoa were free from all influence of the Romanesque and Gothic styles. In my judgment this building reflects a notably



GROUND FLOOR PLAN

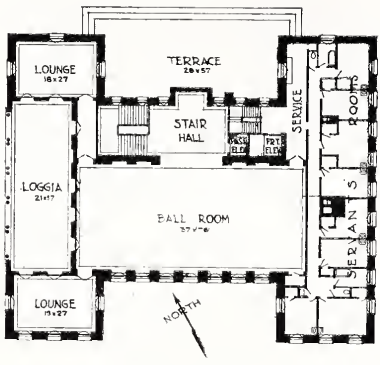
RESIDENCE OF MRS. H.L. JUDD MINNEAPOLIS MINN.

Figure 2

MARSHALL & FOX ARCHITECTS CHICAGO ILL.

accurate study of the historic style upon which it is based; it shows a tender feeling for beauty in all its parts and a remarkable adaptability to its site, as well as a careful selection of the fine materials which have been used without stint. It may be too large and may overwhelm beautiful neighboring houses; but that is only a matter of scale. Every dimension in it might be reduced twenty per cent., and still the design would be the same and equally practicable. Its great merit is that it is consistent with itself, no one part being overdone. It has none of the features of the modern French Renaissance or of any other Renaissance that ever was practised, except that of Italy in its best time.

It reminds me of the city houses done by Frederick Diaper in New York and of some of the villa architecture by the elder Upjohn—for it was only his church work that was in the Gothic style. Diaper, though born in England, was an Italian Renaissance man, and was especially fond of the Roman Doric manner. He designed all of the best residences in New York in and adjacent to Fifth avenue, from Fourteenth street to Fortieth



THIRD FLOOR PLAN

RESIDENCE OF MRS. H.L. JUDD MINNEAPOLIS MINN.

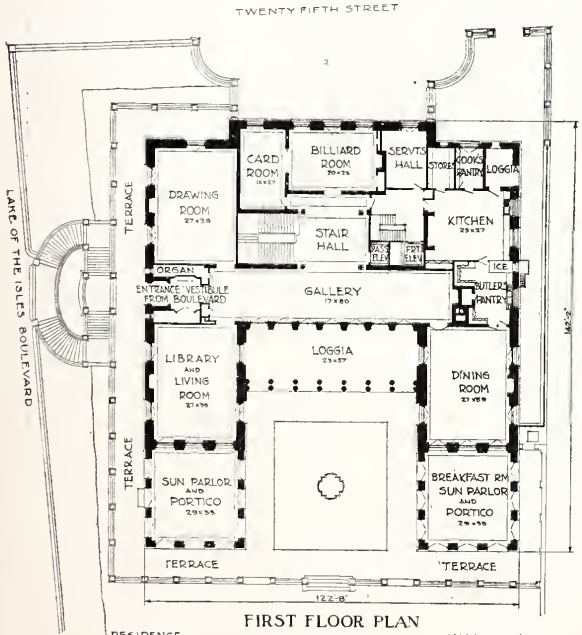
Figure 5

MARSHALL & FOX ARCHITECTS CHICAGO ILL.

street. They were refined in design and detail and excellently built, and would, if they were still in existence, put to shame some of the cartouche bedecked buildings erected in recent years in that city. It is said that only one of his houses is still standing, the house originally built for the first August Belmont, on the east side of Fifth avenue, somewhere between Thirty-fifth and Fortieth streets. He was, I know, the architect for the John Taylor Johnston marble house on Fifth avenue, near Ninth street, one of his last creations, in which he was assisted by Mr. A. J. Bloor, still living, and the oldest member of the American Institute of Architects, of which Mr. Diaper was one of the founders.

The building before us was designed by a firm the members of which are of the younger generation of architects. We had the pleasure to describe, a few months ago, one of their largest buildings, which gave evidence of study of the best Roman models, and later a club house which is entirely modern and not in accordance with any of the historic styles, and will watch with interest for any future evidences of their stylistic predilections.

The Judd house combines in a remarkable degree the qualities of domesticity and grandeur. Its very large rooms, far from



FIRST FLOOR PLAN

RESIDENCE OF MRS. H.L. JUDD MINNEAPOLIS MINN.

Figure 3

MARSHALL & FOX ARCHITECTS CHICAGO ILL.

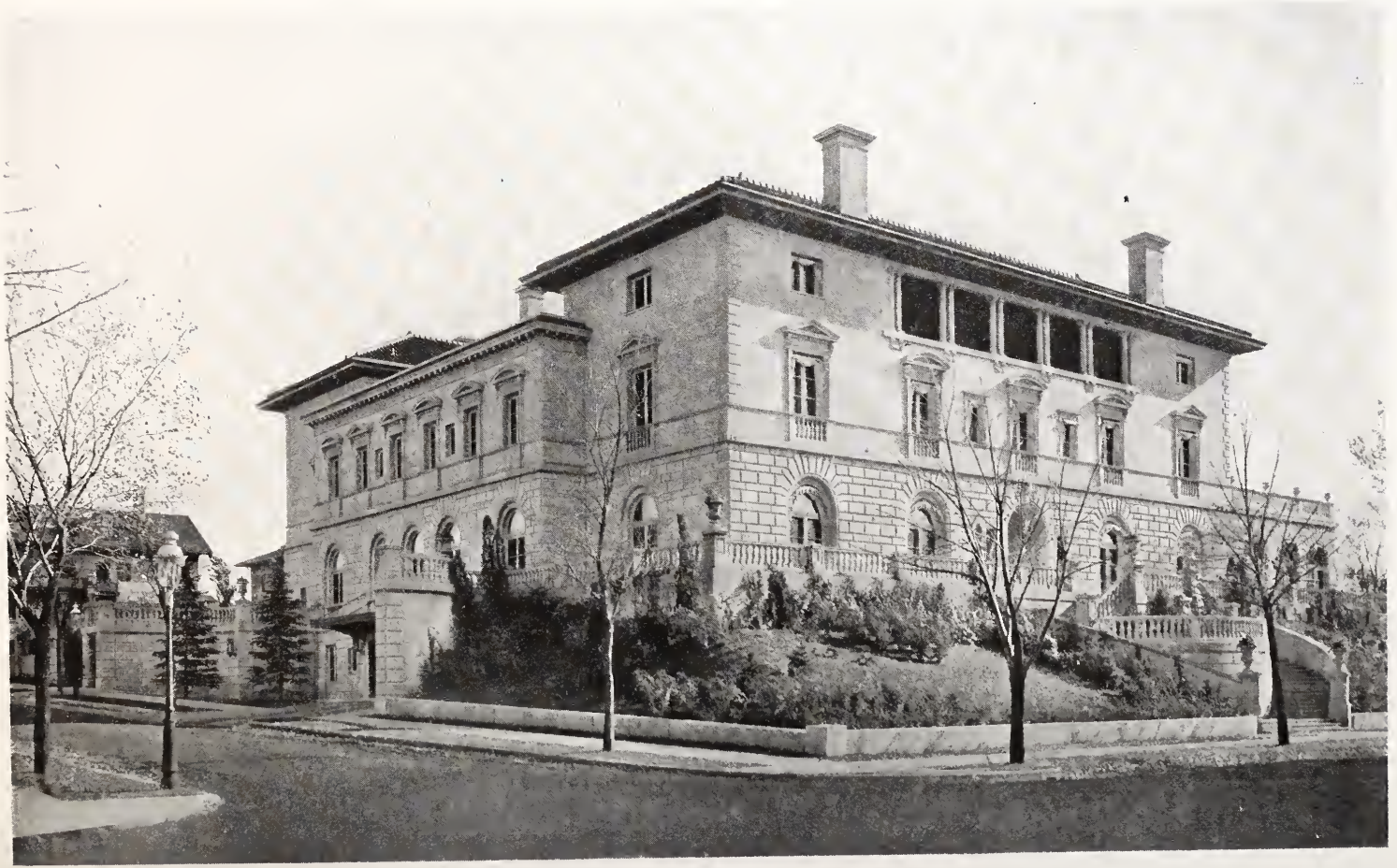


FIG. 7. VIEW FROM THE NORTH OR BOULEVARD SIDE, WITH TWENTY-FIFTH STREET ON THE LEFT—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS. MARSHALL & FOX, ARCHITECTS.



FIG. 6. APPROACH FROM TWENTY-FIFTH STREET, SEEN FROM THE NORTHEAST—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS. MARSHALL & FOX, ARCHITECTS.



FIG. 8. VIEW FROM THE BOULEVARD, ON THE WEST—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS. MARSHALL & FOX, ARCHITECTS.



FIG. 9. VIEW FROM THE SOUTH, OR GARDEN SIDE—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS. MARSHALL & FOX, ARCHITECTS.



FIG. 10. DETAIL OF GARDEN COURT—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.



FIG. 11. GALLERY ON FIRST STORY, LOOKING FROM STAIRWAY SIDE—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.

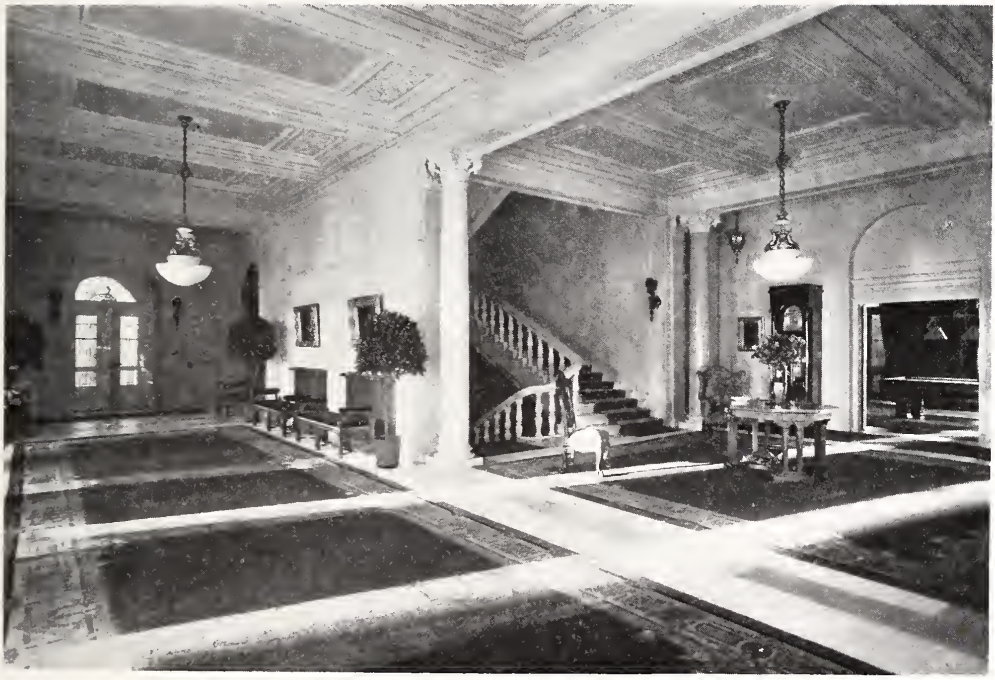


FIG. 12. GALLERY ON FIRST STORY, LOOKING FROM ELEVATOR SIDE—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.



FIG. 13. DRAWING ROOM ON FIRST STORY—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.



FIG. 14. LIVING ROOM AND LIBRARY, LOOKING INTO SUN ROOM—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.

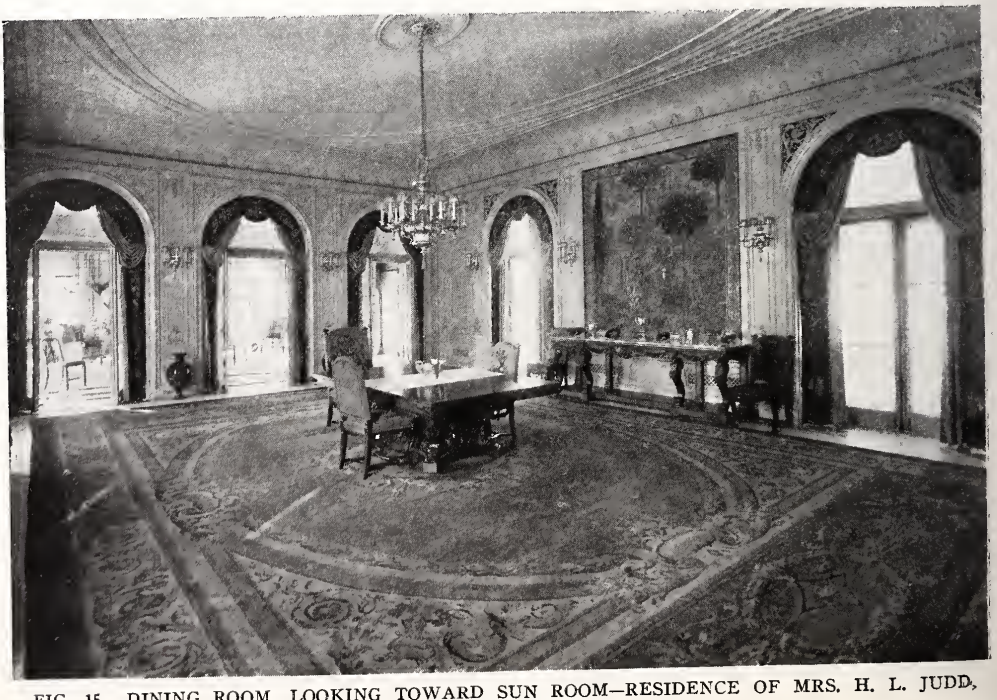


FIG. 15. DINING ROOM, LOOKING TOWARD SUN ROOM—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.



FIG. 16. HALL, ON SECOND STORY—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.



FIG. 17. BALLROOM, ON THIRD STORY—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.



FIG. 20. DETAIL OF THE METALLIC CORNICE THAT SURROUNDS THE HOUSE—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS. MARSHALL & FOX, ARCHITECTS.



FIG. 19. GARDEN AND LAKE OF THE ISLES, FROM THE SOUTH TERRACE, SECOND FLOOR LEVEL—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS. MARSHALL & FOX, ARCHITECTS.

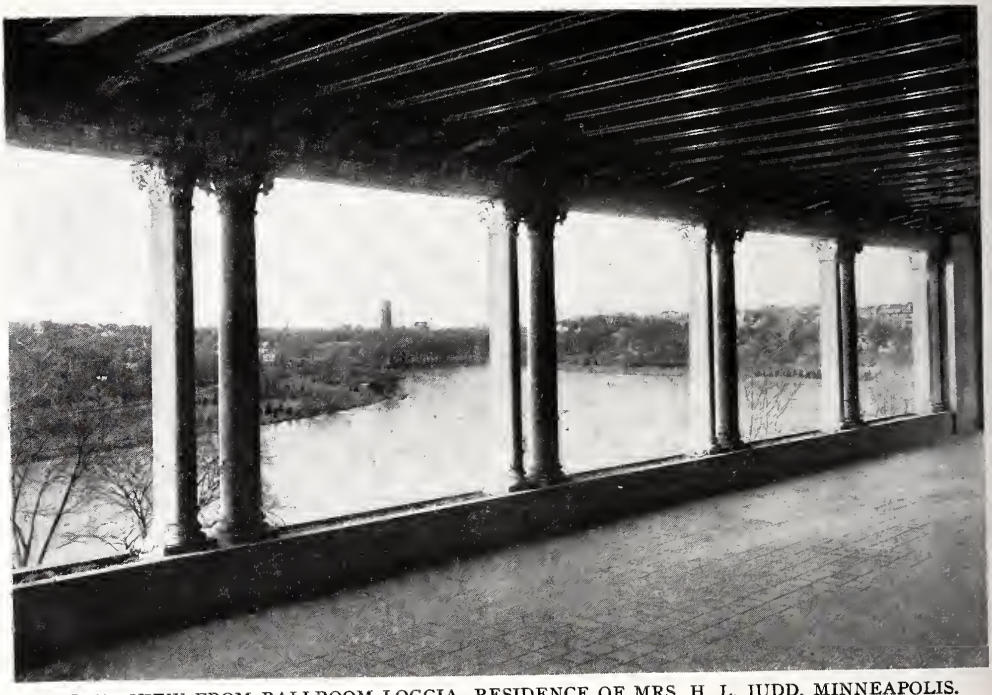


FIG. 18. VIEW FROM BALLROOM LOGGIA—RESIDENCE OF MRS. H. L. JUDD, MINNEAPOLIS.
Marshall & Fox, Architects.

overawing a visitor at first sight, give an impression of hospitality. After one enters the ground floor on the only side on which the earth is not banked there is no effect of gloom, but of a well lighted lobby, from which one can ascend either by elevator or by the marble stairway. On the first floor the whole plan is unfolded (Figs. 11 and 12). On ascending by the elevator to the second floor the visitor has a view of the hall shown in Fig. 16. Continuing up to the third floor, he is immediately in the ballroom (Fig. 17), for the hall in this story is practically part of the ballroom. The ballroom is illuminated at night by two rows of concealed electric lights within the corners. The gallery on the first floor connects directly with the principal rooms for entertainment, the drawing room (Fig. 13), the library (Fig. 14), the billiard room and the dining room (Fig. 15). The hall on the second story connects directly with the two sitting rooms and the suites of chambers. All the offices, service corridors and servants' rooms are at the southeast side of the house, and are reached by freight elevator as well as by a private staircase.

One of the special and essential features of a house thus located is the provision of loggias and terraces just where they are wanted. There are two sun parlors on the south side. One connects with the library and living room, the other with the dining room. On the first floor is a loggia connected with the gallery, and level with the garden (Fig. 10). On the second floor is a loggia parallel with the hall (Fig. 10), and there are terraces connected with each of the family chambers. On the third floor is a great loggia connected with the ballroom. These accessories make the house equally adapted for summer and winter use.



FIG. 1. GENERAL PLAN OF MANILA, WITH IMPORTANT PUBLIC BUILDINGS ERECTED DURING THE PERIOD FROM 1906 TO 1914 INDICATED IN BLACK.

The WORK OF WILLIAM E PARSONS IN THE PHILIPPINE ISLANDS

By A N. REBORI

Part I

UNLIKE other Oriental countries, as Japan, Korea and China, the Philippines have developed no peculiar architectural or art traditions of their own. While the native Filipino has the average instincts for artistic expression in its various phases, yet these have shown up better in adapting the art of other countries than in creating one of their own.

In architecture, Spain has given them sound traditions, and has left monuments of undoubted merit. I should say that Spain has given them the best that is in Spanish art, the principles inherited from Rome itself, rather than the peculiarities of the Spanish Renaissance.

The Philippines and their people appear to one as being, not exactly primitive, but still rather elemental. Perhaps, unconsciously, Mr. Parsons felt that architecture as an expression of the real conditions should be reduced to its simplest elements; and you will find that this impression is given generally by his work, where there is nothing, I think, which would remind you of our modern French or Italian architecture, and certainly not any Americanism. It is evident from the start that the designer, in

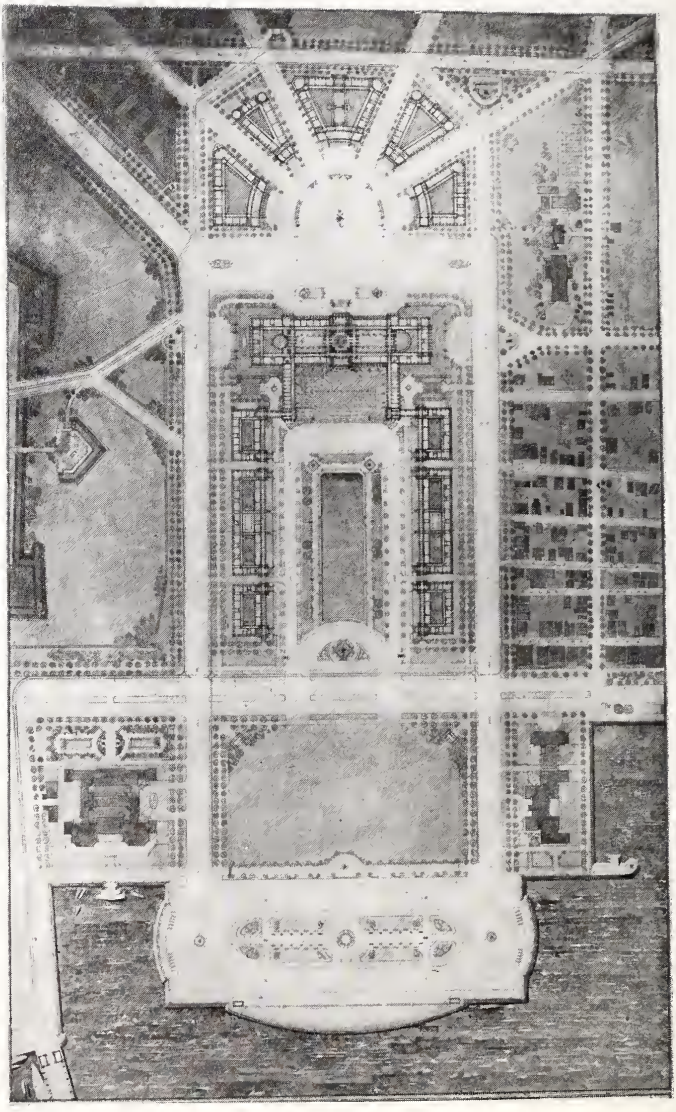


FIG. 2. PLAN OF THE PROPOSED CAPITOL BUILDINGS, SHOWING THE LOCATION FRONTING ON MANILA BAY.



FIG. 3. BIRD'S-EYE VIEW OF THE CENTRAL PART OF MANILA, SHOWING IN THE FOREGROUND THE PUBLIC GARDENS, HOTEL AND CLUBS EXECUTED ON RECLAIMED LAND, AND THE PROPOSED CAPITOL BUILDINGS BEYOND.

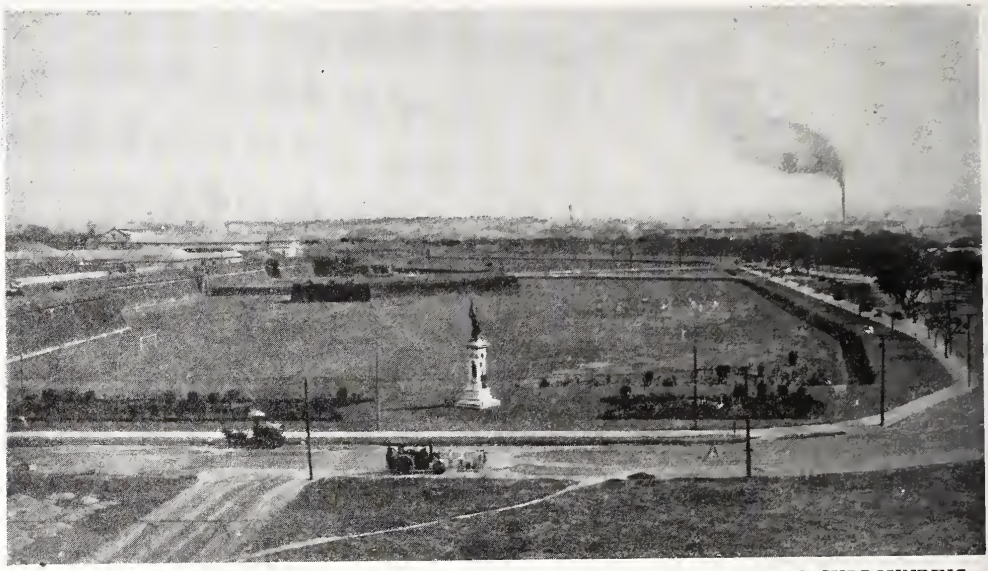


FIG. 4. VIEW OF THE PUBLIC PLAYGROUNDS, FORMED FROM THE MOATS SURROUNDING THE WALLED CITY. THE AQUARIUM IS BUILT IN THE BASTION AT THE CENTER.

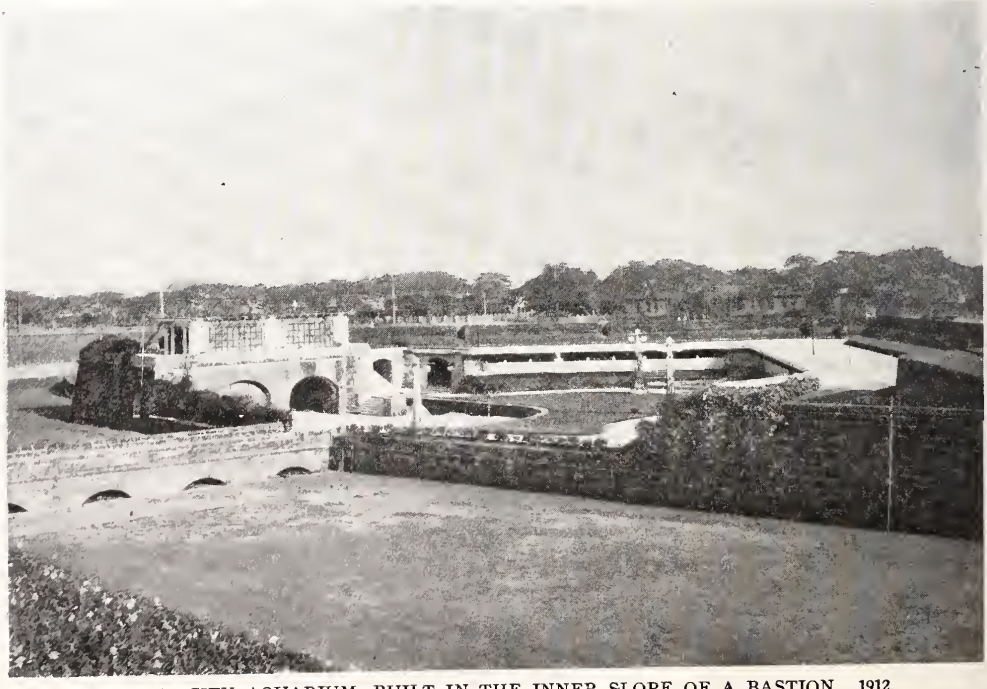


FIG. 5. CITY AQUARIUM, BUILT IN THE INNER SLOPE OF A BASTION. 1912.

laying out his work, thought it best to begin with the elemental and the universal, and, with this once firmly established, let it develop with whatever peculiar local character it demanded. It remained for an American architect to establish city plans and buildings of a permanent nature suited to the needs and requirements of a tropical country.

The results, after eight years of unprecedented activity, are most gratifying in more ways than one. Not only do they speak of artistic ability born of an understanding that is the outcome of thorough training, but they reflect credit on the men who had the foresight to entrust a capable architect with this work. Moreover they stand as a lasting tribute to the period of our Government's constructive interest in the Philippines, now for some years past relegated to the dusty archives of a former administration.

The credit for the inception of building construction and city planning in a comprehensive way should be given to Mr. Taft. While he was Secretary of War he instructed W. Cameron Forbes, member of the Philippine Commission, to engage competent advice on this subject. He induced the late D. H. Burnham to visit the islands, which he did together with his designer, Pierce Anderson, making general preliminary plans of Manila and Baguio. This was followed by the recommendation that an architect of suitable training and experience be appointed as consulting architect for the Government.

William E. Parsons was recommended and appointed for the job. At the time of his selection he was practicing architecture in New York City, having been but recently diplomated at the Beaux Arts, Paris. With enthusiastic ambition, the best heritage of a thorough French training, he went to Manila in November, 1905, and served until February, 1914, resigning because "there seemed to be no further progress to be made under the scuttle policy of the present administration."

Under the terms of his appointment and of an act of the Philippine Commission, he was given general architectural supervision over the design of all public buildings and parks throughout the islands, including provincial and municipal work as well as insular. Consequently he was charged with interpretation of the preliminary plans prepared by Messrs. Burnham and Anderson for Manila and Baguio.

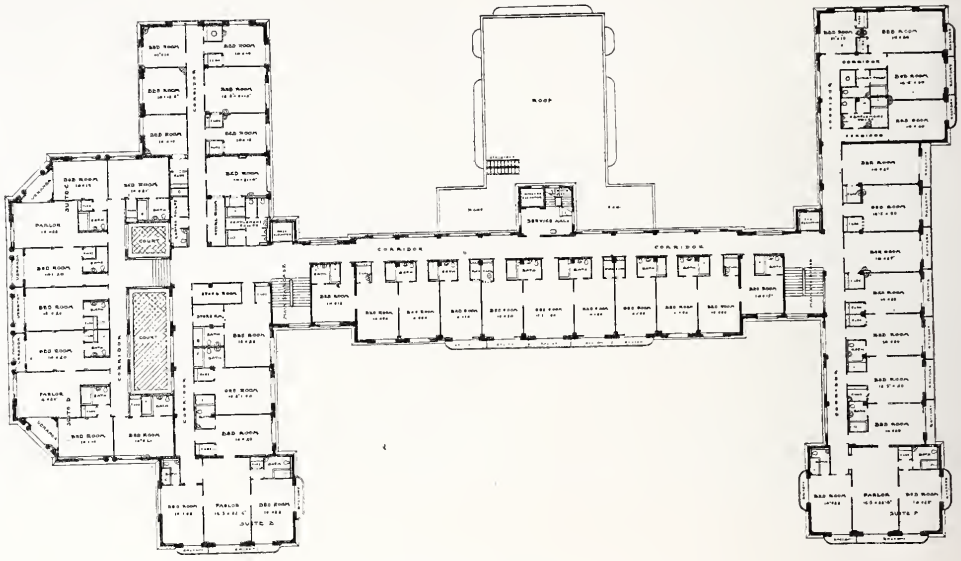
He received a salary from the Government which paid the cost of plans, etc. Also he was allowed to engage in private practice, and maintained a separate office during most of his years in Manila.

"At the time of my arrival," said Mr. Parsons, "the standard of Government construction was very low. While the islands had an ample supply of splendid hard woods, Oregon pine was found to be cheaper at first cost, and was becoming generally used. The beautiful old tile roofs which had been used by the Spaniards were giving way to glaring galvanized iron.

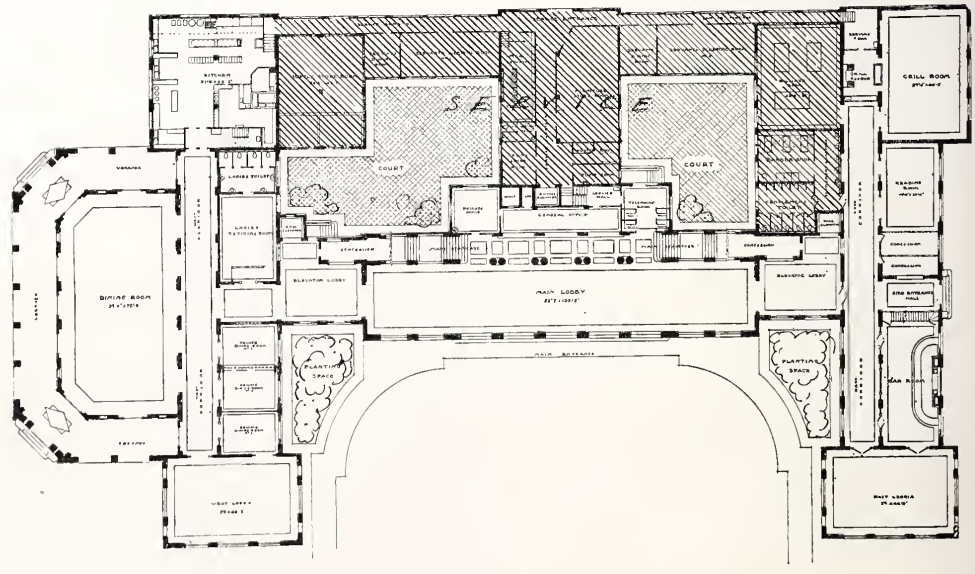
"I found that in my first interviews regarding building plans, officials were concerned first in obtaining maximum floor space and had little regard for durability. The first step was to induce the Government to discontinue the use of Oregon



FIG. 6. CITY AQUARIUM, MANILA, SHOWING THE FILTER TANKS SCREENED WITH BOUGAINVILLEA.



Second Floor Plan.



First Floor Plan.

FIG. 8. FLOOR PLANS OF THE MANILA HOTEL.
W. E. Parsons and the Eastern Engineering Company, Associated Architects.



FIG. 9. THE MANILA HOTEL, 1912.
W. E. Parsons and the Eastern Engineering Company, Associated Architects.

pine, which is tempting food for the anay (white ant), and to encourage the development of Philippine hard woods, which nature has prepared to withstand the ravages of the tropical climate better than any imported woods. The next step brought reinforced concrete as the standard form of construction."

It is obvious that this is the proper material for a country having no workable and durable stone for building, where the anay and decay eventually destroy even the hardest timbers, where earthquake shocks are at times severe, and where skilled labor is scarce and unskilled labor cheap.

The adoption of permanent materials by the Government would hardly have been possible, according to Mr. Parsons, without the constant support of Mr. Forbes.

It would be difficult to set a standard for tropical architecture without a realization of tropical conditions. In the real tropics (not as in Italy or Spain, where thick walls and small windows are used to shut out the sun), the maximum of ventilation is considered essential to comfort. Large windows and small wall surfaces are the rule. Windows should extend to the floor and be shaded either by metal canopies or by arcades or colonnades, both from the sun and from the glare of the sky.

Protection from driving rain is necessary also, for ventilation through open windows is required in rainy weather as well as in sunshine.

Low structures, two or three stories in height, are the general rule, as the sites available for public buildings usually are of ample size. The use of elevators is seldom required; a natural prejudice, on account of earthquakes, prevails against high buildings.

From the brief statement I have given of actual conditions as described to me and shown by the illustrated work designed and executed, we can see that the architectural problem as an expression of truth resolved itself into that of finding a treatment of reinforced concrete walls and large shaded window openings. Here is where the designer's skill mani-



FIG. 10. A CORNER OF THE DINING ROOM VERANDA, LOOKING TOWARD MANILA BAY—MANILA HOTEL.



FIG. 11. THE LOBBY—MANILA HOTEL.



FIG. 12. THE PHILIPPINE GENERAL HOSPITAL, AT MANILA, CONSTRUCTED ON THE PAVILION PLAN. 1910.

fests itself in the forceful manner by which the exterior of his buildings are handled and made artistically to functionate to the needs of the plan.

As to reinforced concrete, its successful use depends upon finely proportioned masses and interesting relations of openings to solids, rather than upon moulded decoration or applied color. This reasoning would not apply so well to northern climates as to the tropics, where there is an abundance of luxuriant and colorful foliage to contrast with plain wall surfaces.

It was obviously the intention of Mr. Parsons to treat reinforced concrete as

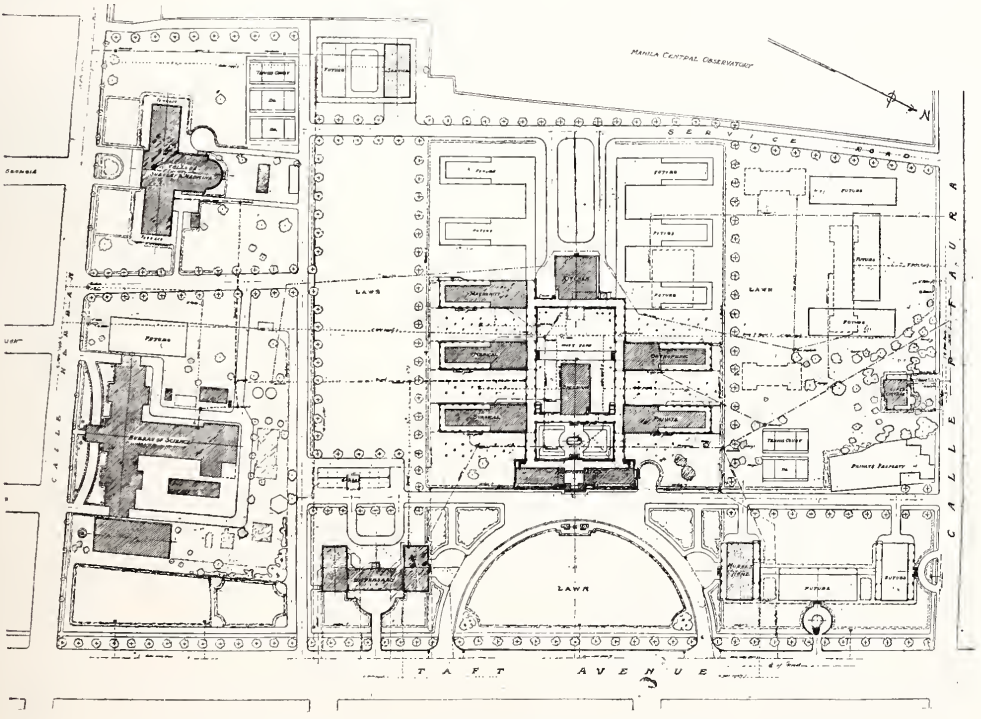


FIG. 13. PLAN OF THE PHILIPPINE GENERAL HOSPITAL, MANILA, SHOWING EXECUTED BUILDINGS, INCLUDING THE COLLEGE OF SURGERY AND MEDICINE (THE BUREAU OF SCIENCE PREVIOUSLY CONSTRUCTED).



FIG. 14. COURTYARD OF THE GENERAL HOSPITAL, SHOWING THE OPEN CORRIDORS.



FIG. 15. ADMINISTRATION PAVILION OF GENERAL HOSPITAL, SHOWING CORRIDORS CONNECTING WITH OTHER PAVILIONS.

a form of masonry and not as a metal. Historical precedent was of little assistance, for that applies mostly to temperate climates and antedates reinforced concrete. However, the architecture developed by the Spaniards, consisting usually of heavy stone walls for the first story and timber construction for the upper story, projecting several feet beyond the lower story, furnished good suggestions, of which the designer took fair advantage.

One of the features of local architecture adopted generally was the use of conchas for window sash in place of glass. The concha is a flat sea shell about four inches in diameter. It is trimmed down to squares, which are set in thin strips of wood. They give a soft pearly light, where clear glass would be intolerable on account of the glare.

A typical example showing the artistic use of these shells is found in the manner the openings of the Manila Hotel are treated. This hotel was constructed on land reclaimed from Manila Bay, facing public parks on two sides and Manila Bay on a third. Note the large exterior window openings carefully arranged and spaced, broad and wide, as they should be in a country where air is essential at all times and shade is required from the direct glare of the sun. All these openings are shaded with canopies giving the strong horizontal lines to the design so typical in tropical architecture. It is always easy to tell the time of day in the tropics by the number of people in the street.

In the plan of this hotel the maximum natural ventilation was sought and admirably achieved. As a result corridors have bedrooms on one side only, affording the best cross ventilation. The original plans had no roof garden, which was added as the building approached completion, causing somewhat of a makeshift in design. In general, both the exterior and the interior of the Manila Hotel are remarkably well handled, and considering the limitations of the material employed in its construction the building is unusually imposing.

The majority of Government buildings designed by Mr. Parsons in the Philippines are located in or near Manila. Pro-



FIG. 16. SUPERINTENDENT'S COTTAGE—GENERAL HOSPITAL, MANILA.



FIG. 18. NORMAL SCHOOL, MANILA.

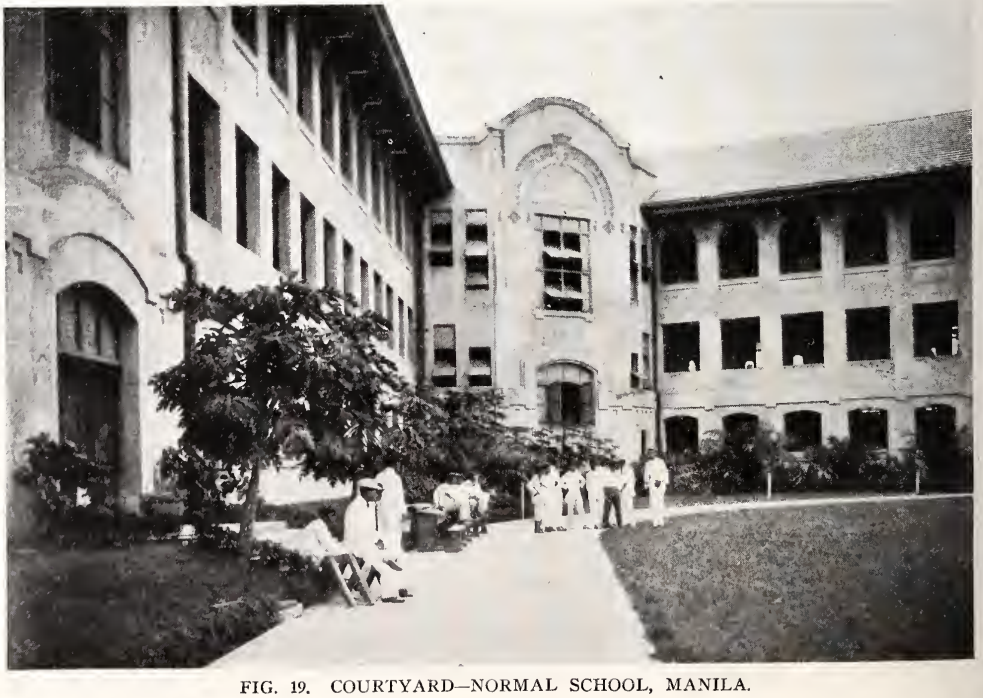


FIG. 19. COURTYARD—NORMAL SCHOOL, MANILA.

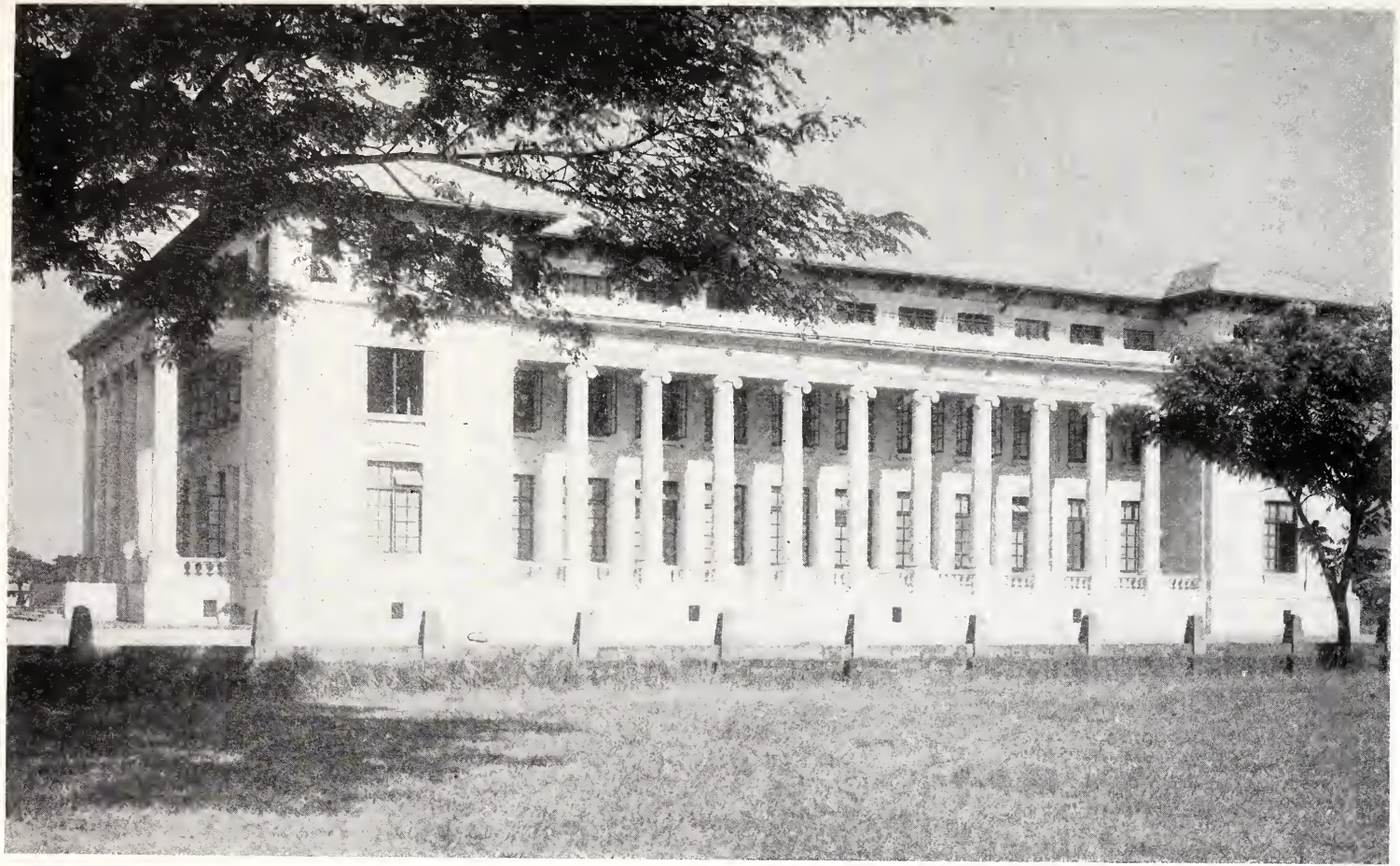


FIG. 17. UNIVERSITY HALL, THE FIRST BUILDING OF THE UNIVERSITY OF THE PHILIPPINES, MANILA. 1913



FIG. 20. WOMEN'S DORMITORY OF THE NORMAL SCHOOL, MANILA. 1914.



FIG. 21. COURTYARD—WOMEN'S DORMITORY OF THE NORMAL SCHOOL, MANILA. 1914.



FIG. 22. WOMEN'S DORMITORY OF THE NORMAL SCHOOL, MANILA. PART OF THE COURTYARD.

vincial buildings, schools, public markets and many other types of buildings erected are scattered throughout the islands. A fair idea of the amount of work done can be had by looking over the general plan of Manila, on which the buildings constructed are shown in heavy shaded block form.

The plan of Manila, in general, is based on Burnham's preliminary layout revised to meet actual needs and conditions. The old walled city is now used as a recreation park possessing expansive promenades where the people gather during open air band concerts. One corner of the bastille has been made over into an underground aquarium, which has its trellised entrance showing above the old inclosing walls.

Up to the present time the central capital group remains to be built, and although the designs have been entirely completed, there is but a remote chance of its realization.

During Parsons' stay in the Philippines a part of the general plan of Manila was carried out consistently with the limited municipal resources. Since then its further development has been at a standstill.

Of the many buildings erected, the



FIG. 23. THE SALA—WOMEN'S DORMITORY OF THE NORMAL SCHOOL, MANILA.



FIG. 24. CENTRAL SCHOOL, FACING TAFT AVENUE, MANILA. 1914.



FIG. 25. INTERMEDIATE SCHOOL, JONDO, MANILA. 1909.



FIG. 26. MANILA CLUB, SIDE FACING THE TENNIS COURTS. 1908.



FIG. 27. Y. M. C. A. BUILDING, MANILA. 1909.



FIG. 28. ELKS' CLUB, MANILA. 1911.



FIG. 29. MUNICIPAL MARKET, PACO, MANILA. 1911.



FIG. 31. ENTRANCE TO RAILWAY STATION, MANILA.



FIG. 30. FIRE STATION, JONDO, MANILA. 1913.

Philippines General Hospital, planned on the pavilion scheme to allow for future expansion, is worthy of mention. It was designed to meet tropical conditions by means of pavilions connected on both floors with open arcades. Its exterior treatment is one of extreme simplicity, depending solely on arches for effect and upon the tropical foliage with which the courtyard and grounds are richly planted for contrast against otherwise plain concrete walls. The general type of plan and construction of this group has been followed by U. S. Army surgeons in Panama and other tropical places.

The central educational group for Manila shows to a marked degree the state of development this class of building was carried to in the Philippines. The peculiar angles of the Normal School, an important building of this group, are due to the street lines with which the building lines are parallel. The plan is evident from the exterior which expressed in a direct manner the entrances and stairs, the classrooms and the assembly hall at the apex. Designed in strict accordance with the condition, consistent with the limited appropriation, the structure presents an interesting mass resulting for the most part from the skillful manner in which its unusual angles are handled. What might otherwise be a commonplace design is thus made to possess architectural significance.

Of a more interesting character, the dormitory for girls of the Normal School is a brilliant bit of design harmoniously suited to its surroundings. Here again the building lines are parallel to the streets, affording that opportunity for picturesque composition of which the designer takes full advantage In general conception, this design follows the local domestic architecture developed by the Spaniards, this being particularly noticeable in the projecting upper stories and the continuous window surfaces.

English Architectural Decoration

Text and Measured Drawings by Albert E. Bullock

Part III

THE originality and inventive genius which characterize the majority of the well known examples of past masters from the time of Inigo Jones to Adam renders them worthy of emulation, since they rank as standard examples. Modern work is frequently open to criticism on account of absence of the essential features which go to make up an original theme. In modern work, lack of new ideas in the detail—the introduction of time-worn motives or of a mixture of periods—has often spoiled an otherwise promising design.

It has been argued that we should cut ourselves adrift from the past and strike out on our own initiative in order to produce originality in decoration. Nothing could be more detrimental, for one must undoubtedly build upon the experience of those who have gone before if one is to acquire merit in any sphere of thought or action.

During one of his famous lectures to students at the Royal Academy Sir John Soane remarked that true inventiveness in design was only to be acquired after an exhaustive survey of all preceding work. More recently Sir R. Rowland Anderson, recipient of the Royal Gold Medal, put on record the valuable research work that had been done for many years under his supervision in measuring old work in Scotland and the prominent positions that were obtained in the profession by many who had assisted in that work.

The forms of detail, and especially the scale of ornament in various positions and elevations, require some persevering assimilation before successful treatments can be continually at command in the varied styles now within the purview of the average architect. Consequently it may not be without interest briefly to survey the work of some of the more notable masters, giving, where applicable, an account of their lives and of their disciples or schools of thought.

Foremost among the originators of Renaissance decoration subsequent to the earlier Jacobean struggles following upon the introduction of that era, the most prominent architect is that earnest student of Palladio, Inigo Jones. He was born in 1573, and in his early years was sent to Italy at the instance of the Earl of Pembroke. He would appear to have set an example in foreign study to his later confreres; Sir Charles Cavendish is recorded to have sent the son of Huntingdon Smithson to Italy prior to the rebuilding of his residence at Bolsover in 1614, while, a decade later, Nicholas Stone, the sculptor, sent his son Nicholas, an architect, to study under Bernini.

Inigo Jones was invited to the court of King Christian, at Copenhagen, and returned with that king's sister, the wife of James I, to England. She appointed him her Architect and Inspector-General of Royal Buildings. At the age of forty he paid a second visit to the home of his beloved Palladio, and shortly after his return commenced the building of Chilham Castle, Kent, for Sir Dudley Digges, Master of the Rolls, who died in 1638. The lofty column, with four supporting Graces, in Chilham Church commemorates this family, and is one of the most striking examples of the work of Nicholas Stone, Sr., the friend of Inigo Jones.

In his work the latter was always closely associated with royalty. One of his earliest extant works was erected in 1619, as part of the great Palace of Whitehall, for James I. It is known as the Banqueting House. Charles I passed to his execution from this building.

Jones erected the Queen's House, Greenwich, in 1635, for Henrietta Maria, wife of Charles I, and there still exists much interesting work of the time in the rooms of this delightful building, although it has suffered through adaptation for the convenience of H. M. naval officers. The writer was permitted to

take notes here by the courtesy of Captain Cooper-Key, and later to inspect, through the kindness of Lord Fisher, the earlier apartments of the Hospital, now his own private rooms. In the Queen's House the hall floor is of black and white marble, in a pattern which reflects the design of the lofty ceiling over it.

On the first floor (river front) are the two principal rooms. One of these, originally a reception room, is entirely painted from wall to ceiling in oils, the ceiling being the work of Dratio Gentileschi. This room is connected with the suite facing the heath, in the apartments of which there are some typical ceilings with wreaths in squared and heavily molded panels. The barrel-vaulted ceiling of the staircase in this suite contains hand-painted panels of apparently later date.

The reception room on the east side has a festooned ceiling of timber, with coffered beam treatment, and wall pilasters ornamented in a form of composition. The chimneypiece is a tasteful design of good execution. The windows are sash windows of a later date, about 1730, when certain alterations were made.

This architect erected Raynham Hall, Norfolk, for Sir Roger Townshend, in 1630, where exist some fine ceilings and much typical ornament of the time, notably the festooned female heads in the frieze of the hall, similar in treatment to that seen at Greenwich and the Banqueting House, and in the hall of The Pynes, Devon, the residence of Lord Iddesleigh.

The decorative scheme of the hall of Greenwich is a dignified classic style, with plain Ionic pilasters lining the walls to support the frieze and modillioned cornice; above this entablature is a clear story of mezzanine windows on one side, with enriched panels to correspond on the other sides. The mahogany doors are of later introduction, giving, however, a fine effect by contrast with the white and gold treatment of the hall. The saloon ceiling is a very good composition, while Queen Anne's bedroom is an equally dignified room, hung with tapestries.

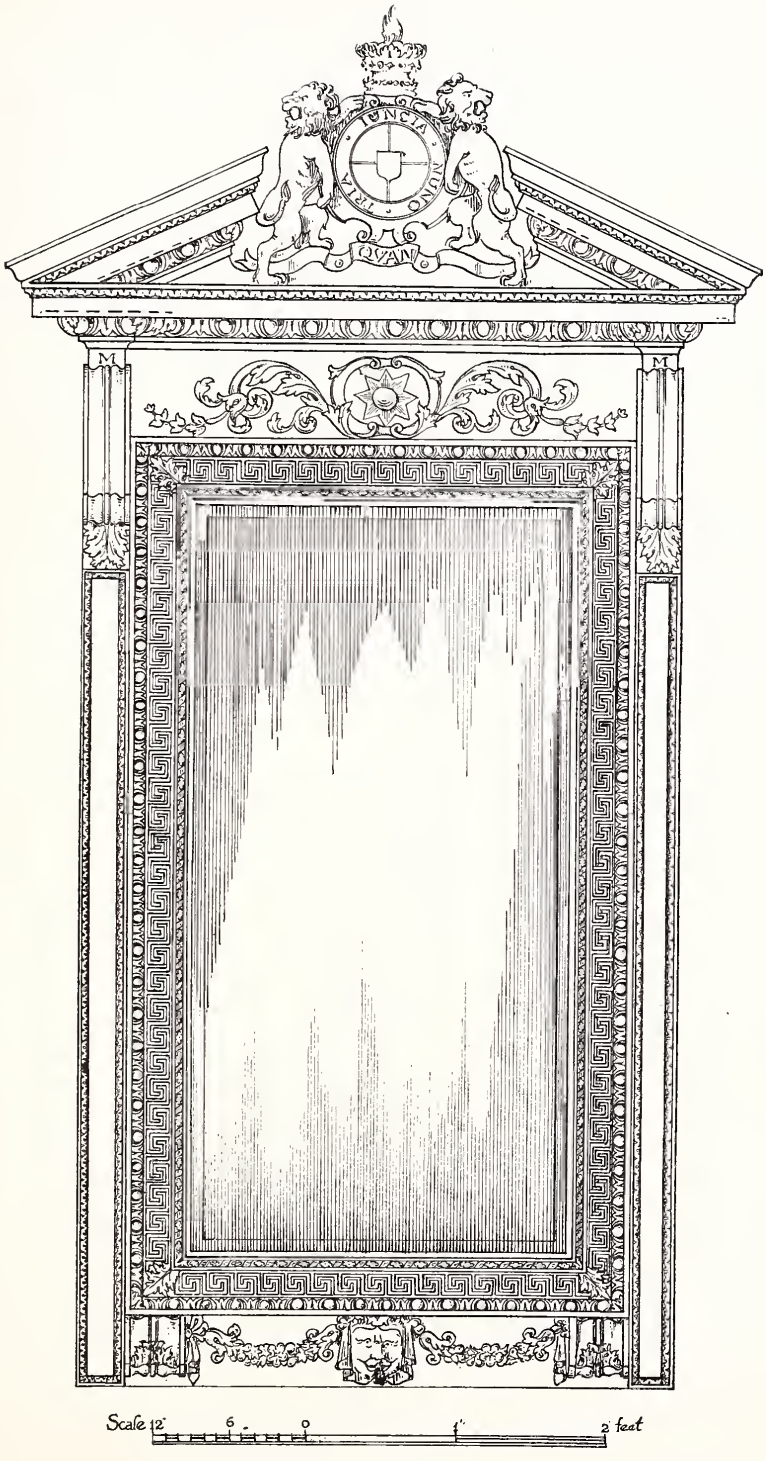
Wilton House, Wiltshire, the residence of the Earls of Pembroke, was designed by Inigo Jones for the Lord Chamberlain Philip, the first Earl.

The mansion stands in particularly fine surroundings, having a large stone screen and lodges at the entrance. The village contains the famous carpet works of that name.

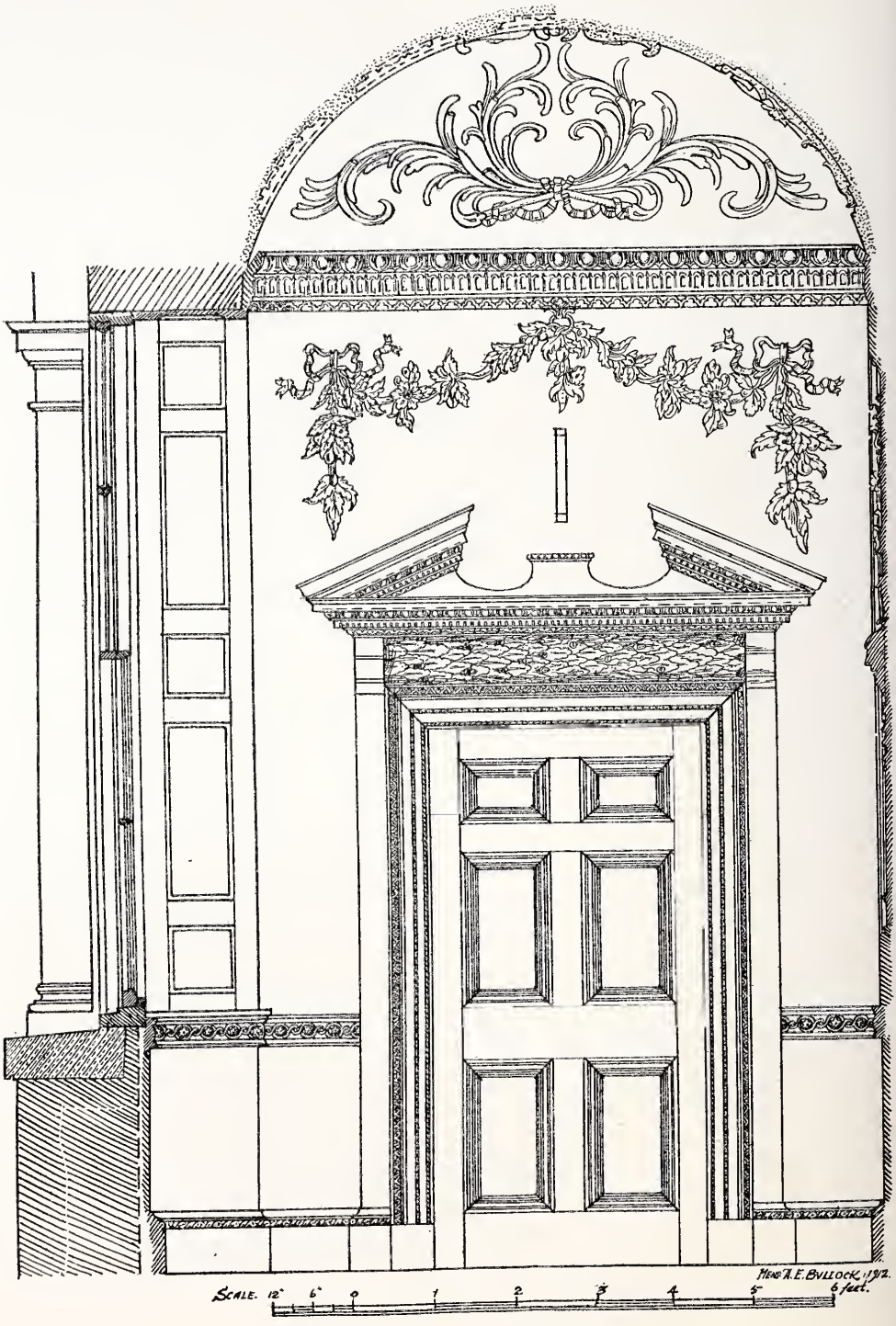
By the courtesy of the Countess Pembroke the writer was enabled to take notes of the principal state rooms during a recent visit to Wilton. The two chief reception rooms are the Double and Single Cube Rooms, which are thirty feet high and sixty by thirty and thirty by thirty feet on plan, respectively. Both are finished in white and gold, with carved marble chimneypieces and elaborate overmantels, the wall ornament being in modeled composition.

The enriched moldings are very different to what one is accustomed to see so frequently in the later Georgian and Wren periods. The dado rail is a Grecian scroll pattern, and the panels have a cavetto section with a banded oval containing a gilt ball as ornament. Rosettes and panels with modeled acanthus scroll work vary the design, the panels themselves being obviously intended for the reception of pictures, although the custom of hanging rich tapestries was still in vogue. The centres of the dado panels contain modeled heads of male and female subjects finished in gold leaf. The chimneypieces, frequently designed with many figures in the composition, give a very rich effect. The great double entrance doors in the Double Cube Room are elaborately finished and of stately proportions.

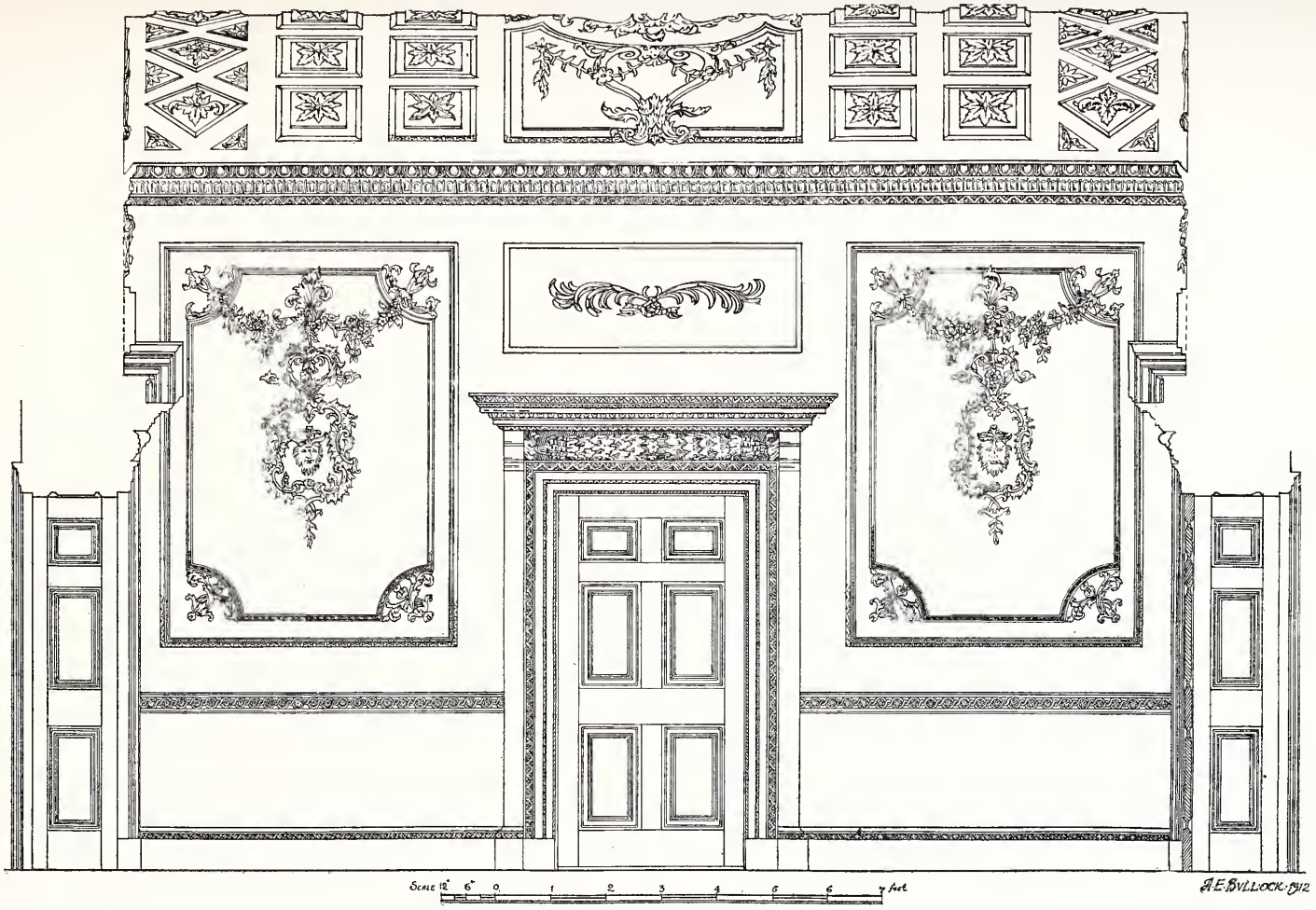
Forde Abbey, Dorsetshire, contains some work by this architect which is of very bold character. The Great Saloon which survived the ravages of the followers of Cromwell, is a lofty apartment with a heavily molded and enriched ceiling coving down upon the main oak cornice, which terminates the paneling. Herein is much fine furniture with gilt coffers from Italy, and notably some exceedingly rare tapestries which were obtained from the Continent during the reign of Elizabeth. The writer was shown an enormous lead-lined box in which these tapestries were rolled around wooden rollers in order to travel safely across the Channel.



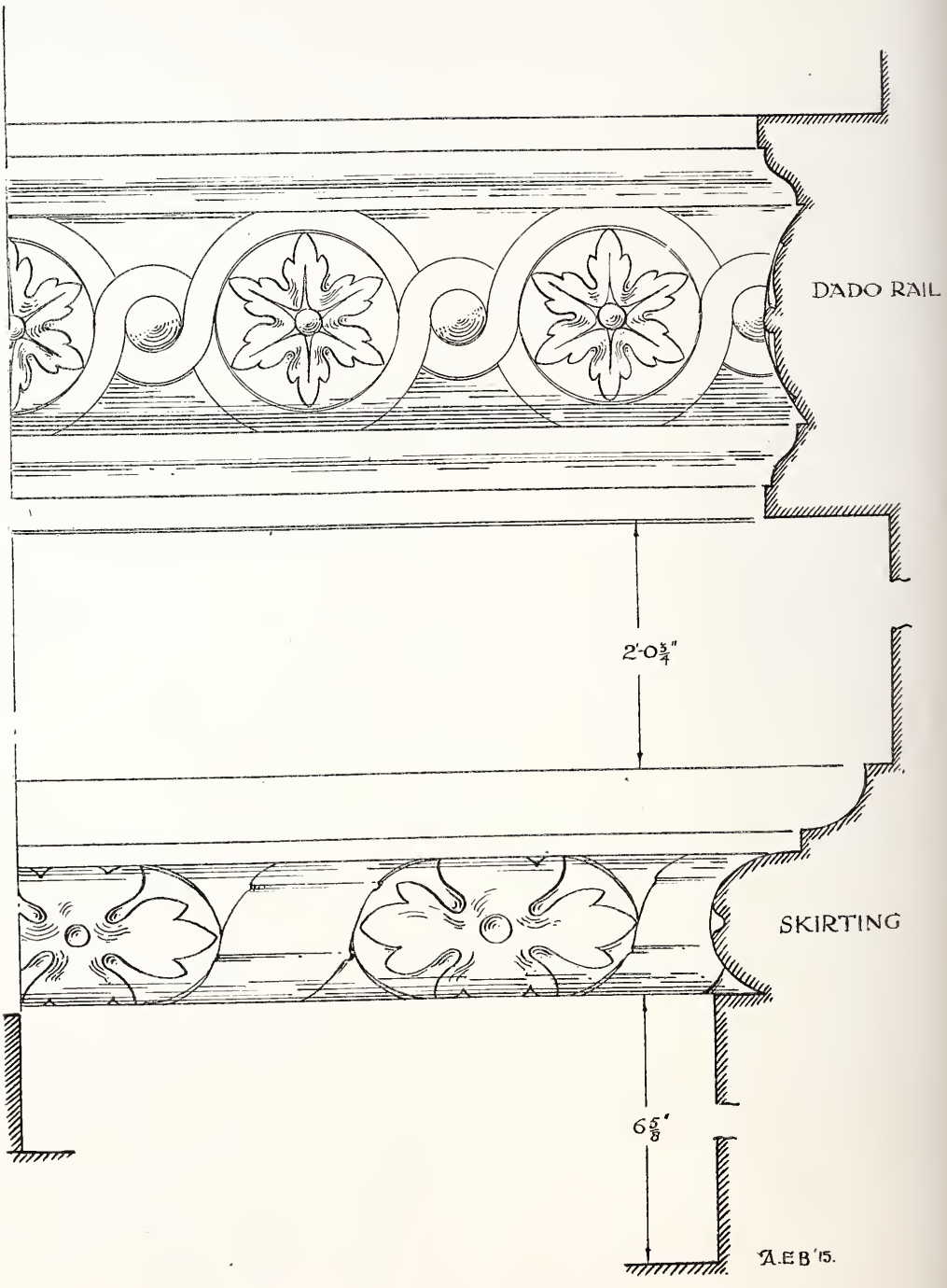
GEORGE II MIRROR—BELTON HOUSE, NEAR GRANTHAM.



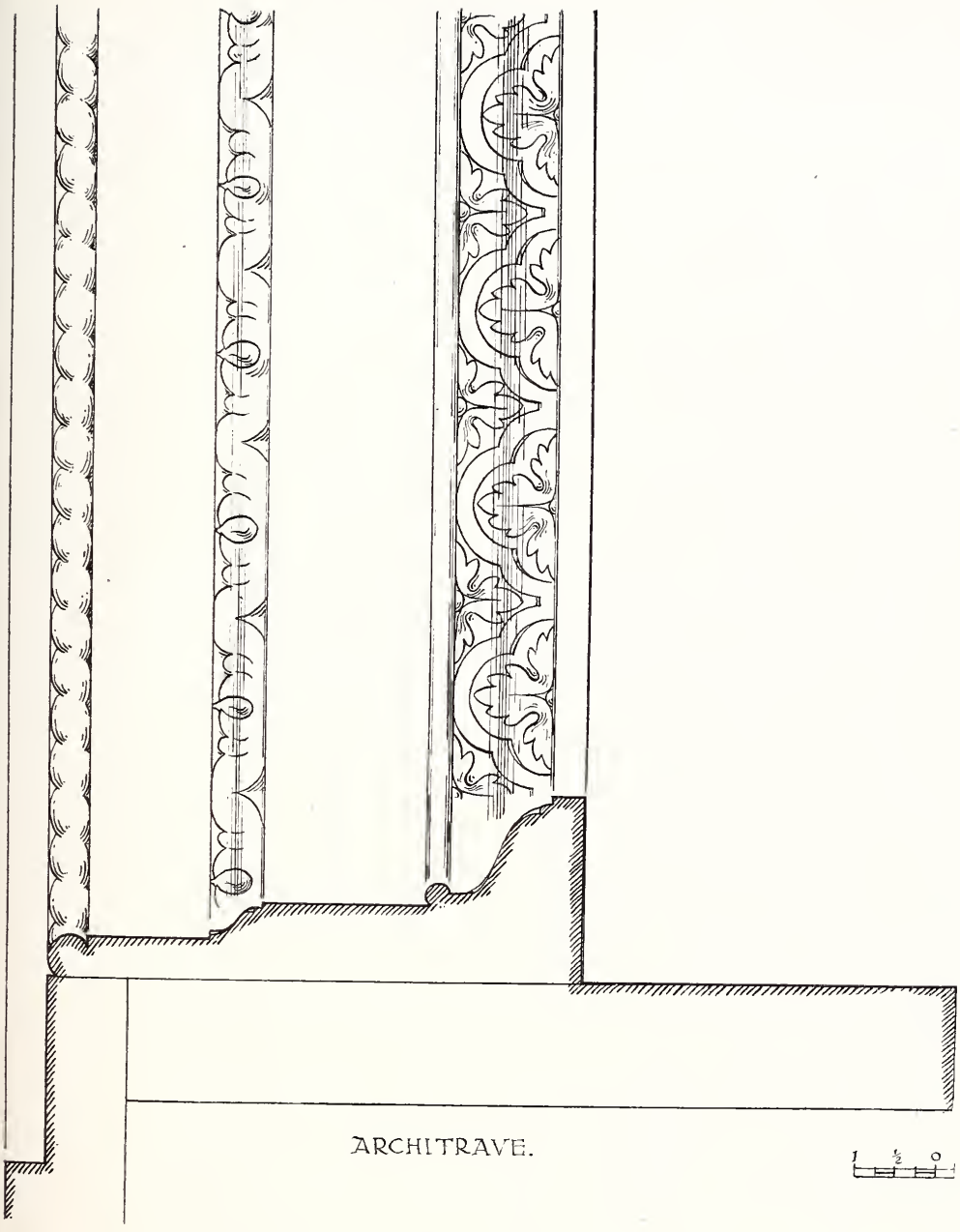
END OF ANTE-ROOM—PEMBROKE HOUSE, WHITEHALL GARDENS. SIR WILLIAM CHAMBERS, ARCHITECT. ABOUT 1760.



ANTE-ROOM—PEMBROKE HOUSE, WHITEHALL GARDENS.
SIR WILLIAM CHAMBERS, ARCHITECT. ABOUT 1760.



DETAILS OF DADO AND SKIRTING IN ANTE-ROOM, ON FIRST FLOOR—PEMBROKE HOUSE, WHITEHALL GARDENS. SIR WILLIAM CHAMBERS, ARCHITECT. ABOUT 1760.



DETAILS OF ARCHITRAVE IN ANTE-ROOM, ON FIRST FLOOR—PEMBROKE HOUSE, WHITEHALL GARDENS. SIR WILLIAM CHAMBERS, ARCHITECT. ABOUT 1760.

The staircase here differs from the preceding style of heavy balusters. It has a solid carved and pierced balustrading of the type associated with the work of Simon Gibbons, a carver much employed by Inigo Jones, and his son-in-law, John Webb.

Forde Abbey was originally a Cistercian monastery of the twelfth century, which was extensively added to in the sixteenth century by the last Abbot, Thomas Chard, about 1528. He surrendered it upon the dissolution of the monasteries. After it had changed hands many times Edmund, the second son of Attorney General Prideaux, secured the services of Inigo Jones to renovate it. An ancestor of the family of Prideaux is buried in the chancel of Sidbury Church, Devon.

Webb succeeded Jones, and erected, *inter alia,* Amesbury House, Wiltshire, and Ramsbury Manor, in the same county. The latter is one of the residences of the Pembroke earldom, in which there is much charming detail of the Charles II period, which in its purity strikes the highest water mark of English domestic architecture.

The ornament is freer and more graceful than the previous attempts, as is evidenced by the treatment of the chimneypiece in the saloon. This style anticipated the work current during the reigns of William and Mary and Queen Anne, under the auspices of Sir Christopher Wren, William Talman and Hawksmoor. Their chief works need little mention here because of their universal notoriety. Indeed, there are but few Renaissance churches in London which are void of the genius of Wren, from St. Paul's Cathedral and Westminster Abbey to churches of more remote degree, although passing notice must be given to St. Stephen's, Walbrook, which is one of the daintiest examples of the city churches, and the most interesting vestry I have seen is that of St. Lawrence, Jewry, to which reference has already been made.

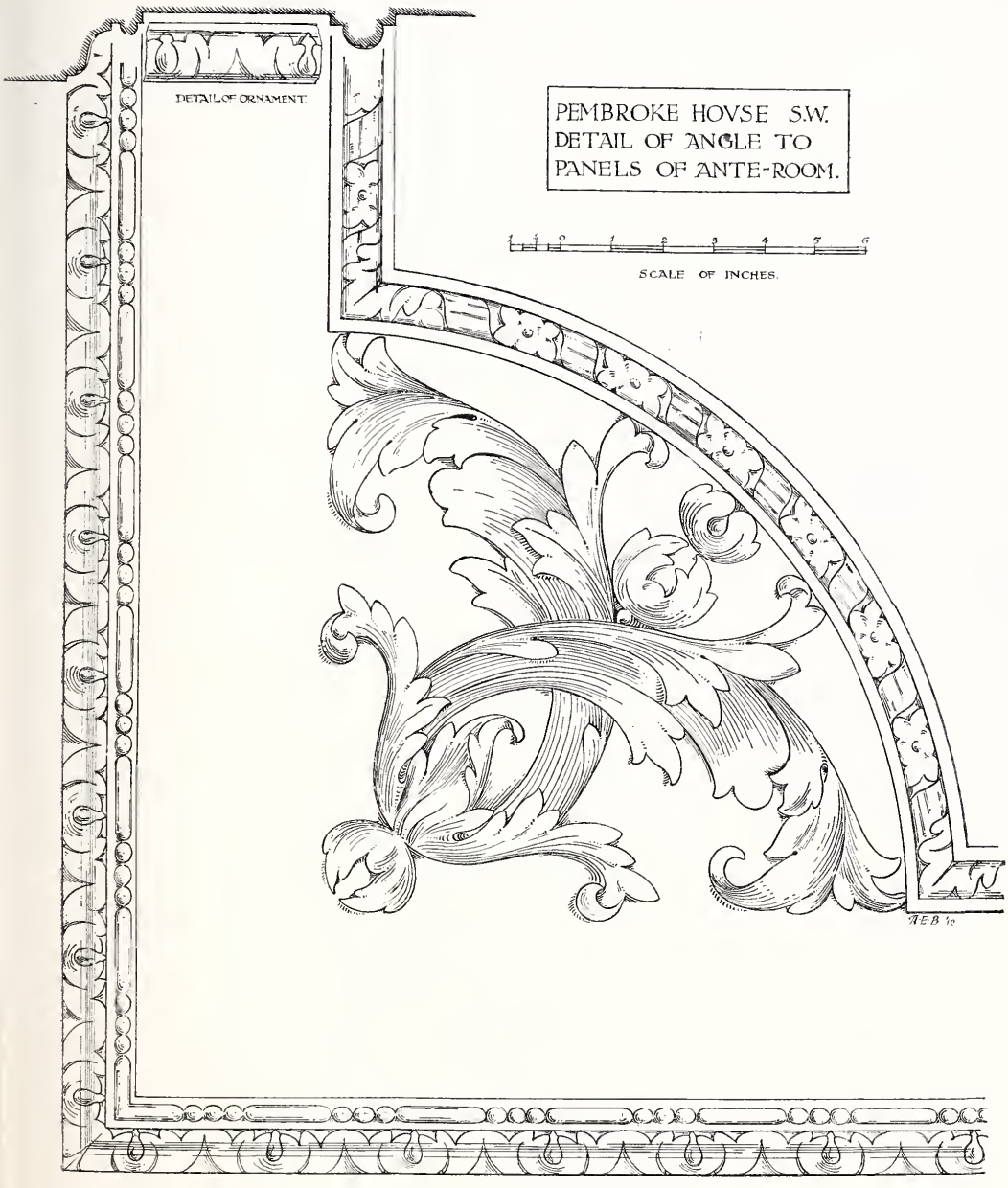
A lesser known architect of the time was Roger Pratt, who was educated at Oxford, and appears to have had a somewhat extensive practice, although his name has been overshadowed by the greater lights of his day. He built old Clarendon House for Edward Hyde, Earl of Clarendon, who was knighted in 1668. Pratt was also architect to Lord Arlington's house, at Horseheath, Cambridge, which suffered demolition in 1800.

In domestic architecture the old Ward School, Love Lane, London, said to have once been in the occupation of Wren, was a typical example of the age. The oak room, with its circular modeled ceiling, is now removed to the new school of Sir John Cass's Foundation in the City.

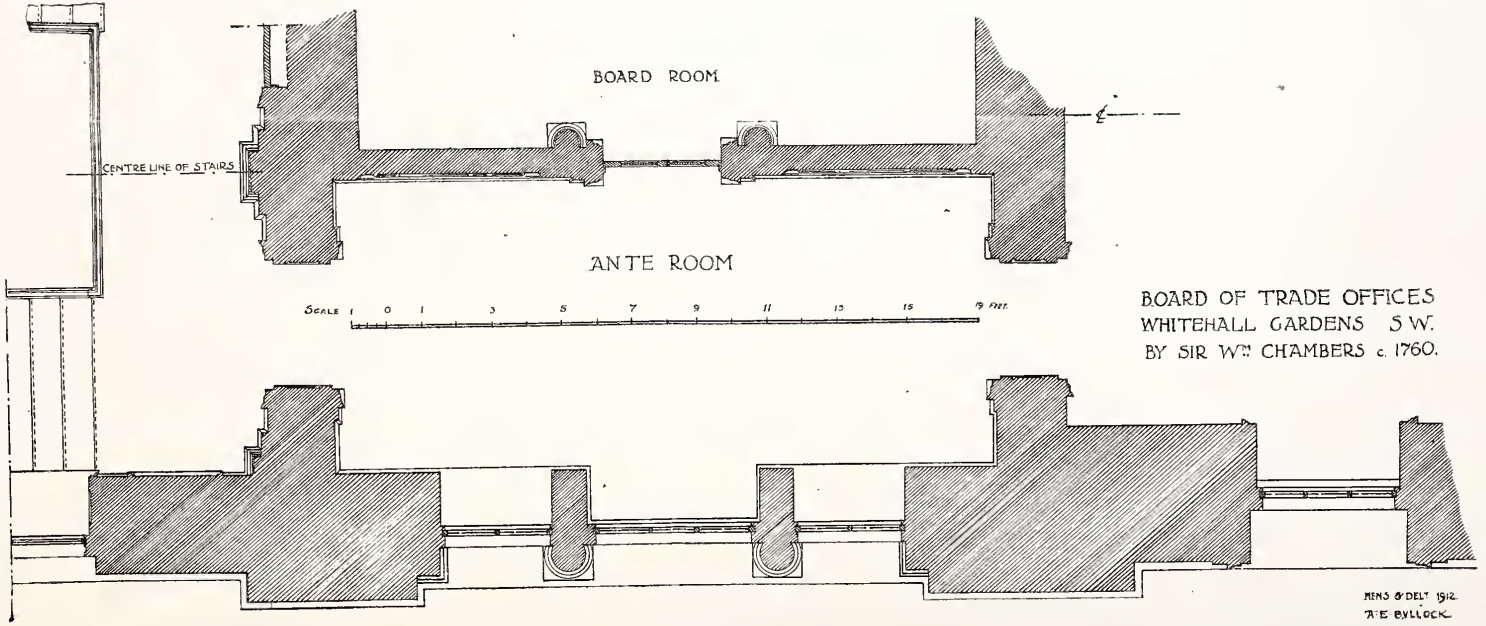
Of Hampton Court Palace much might be said concerning the many charming features of its interior work, including the angle chimneypieces in the state rooms formerly occupied by William III and Mary, and the Queen's private chapel, with its octagonal coved ceiling, terminating in a central light, which forms as graceful a feature as can be found in any period.

Belton House, near Grantham, of which there are several photographs and measured drawings in this series, is one of the residences of Earl Brownlow and his Countess. By their courtesy the writer was permitted to make an extensive survey of the apartments, of which, apart from the chapel, the most interesting is undoubtedly the dining room, with its bold oak paneling and carved wood chimneypieces from the chisel of Grinling Gibbons, much of which was sympathetically restored by Rogers a couple of generations ago.

The pendants of gamboling amorini and fruit and flowers are in the light and airy vein associated with the work of this famous sculptor, who had, however, many assistants, not a few of whom vied with him in skill. Foremost among them was Samuel Watson, who, with his son, worked forty years at Chatsworth under the supervision of the architect, William Talman, and for the Duke of Devonshire. Seldon worked and was killed at Petworth; Henry Phillips assisted Gibbons at Whitehall, and there were foreigners of much skill, including Byvoet of Mechlin, Laurens of Brussels and Arnout Quellin of Antwerp, who rendered assistance in carving at St. Paul's Cathedral and elsewhere.



DETAIL OF ANGLE TO PANELS OF ANTE-ROOM—PEMBROKE HOUSE, WHITEHALL GARDENS. SIR WILLIAM CHAMBERS, ARCHITECT. ABOUT 1760.



BOARD OF TRADE OFFICES, WHITEHALL GARDENS.
SIR WILLIAM CHAMBERS, ARCHITECT. ABOUT 1760.

About this time the art of oil painting became an important element in ceiling and wall decoration. One of our earliest English Renaissance painters was Robert Streater, who was born in 1624 and studied under Du Moulin. His work at the Sheldonian Theatre, Oxford, was executed for Sir Christopher Wren, and is extolled in the familiar couplet which suggested that "future ages must confess they owe to Streater more than Michael Angelo."

His other work at the new Theatre and All Souls' College, Oxford, and ceilings at Whitehall and St. Michael's Church, Cornhill, London, were evidences of his skill which won him much renown. His domestic work included examples at Mr. Povey's house in Lincoln's Inn Fields (a friend of Pepys, the historian); the cedar dining room ceiling at Sir Robert Clayton's House, now at Marsten, near Godstone, where he painted the subject of the Gyants' War, and his well known paintings on the walls and ceiling of the staircase, guard rooms, etc., at Kensington Palace, executed in 1692 for £3,599. His work at Swakeleys is quiet and much less open to the criticism frequently given to the work of Verrio.

Streater was followed by Verrio, whose subjects are extensive and universally admired, among which are included the painted ceiling of the chapel at Chatsworth, the hall and one of the principal bedrooms. Ricard and Laguerre also worked at Chatsworth, the latter with Verrio in 1689.

At a later date Lanscroon, Highmore and Sir James Thornhill were employed there. One of the most important of Thornhill's productions was Moor Park, Hertfordshire, where he supplemented the architecture of Leoni in company with Sleker and Amiconi, for Benjamin Heskins Styles, with whom he seems to have had a contract to execute paintings at a price per yard at the rate of £1 10s for walls, and £3 for ceiling work. Moreover, he is alleged to have had a serious quarrel with his client over the settlement.

Of the various apartments treated, the hall is perhaps as sumptuous as any, the paintings harmonizing well with the bold Italian manner of the architecture. The whole of the walls above the dado of the saloon is finished in oils in a continuous subject, the staircase paintings being the work of Sleker in 1732. Thornhill executed a considerable amount of painting at Stoke Edith and many other important houses of the nobility. He is said to have lived in a house in Soho, London, for a short time, during which he decorated the walls. This house was recently restored by a local firm of decorators.

Thornhill's work was often of a somewhat heavy nature, being rather less bombastic and sprawling than that of his predecessor, Verrio, and certainly lacking in the more refined touch of Streater. Doubtless the rapidity with which he must have worked to earn his fees by the yard necessitated a superficial attitude.

These men, however, were all of them great masters in the art of decorative painting, and their works will live long in support of their fame.

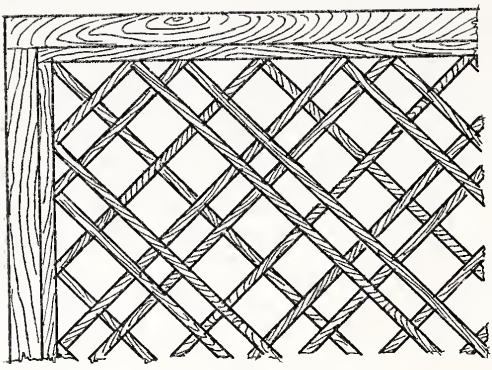


Fig. 7.

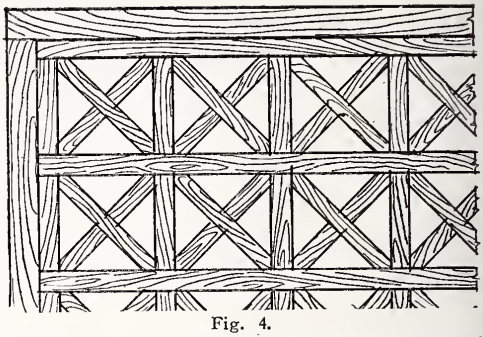


Fig. 4.

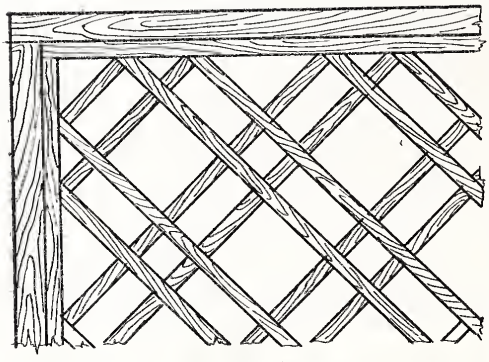


Fig. 6.

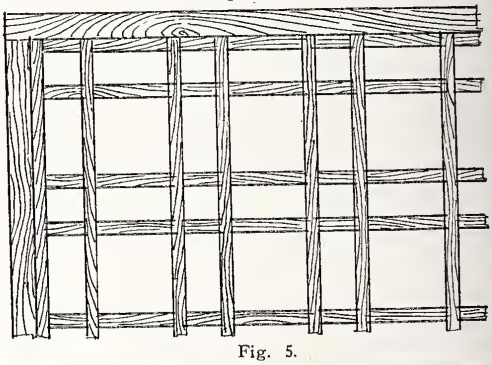


Fig. 5.



Fig. 2.

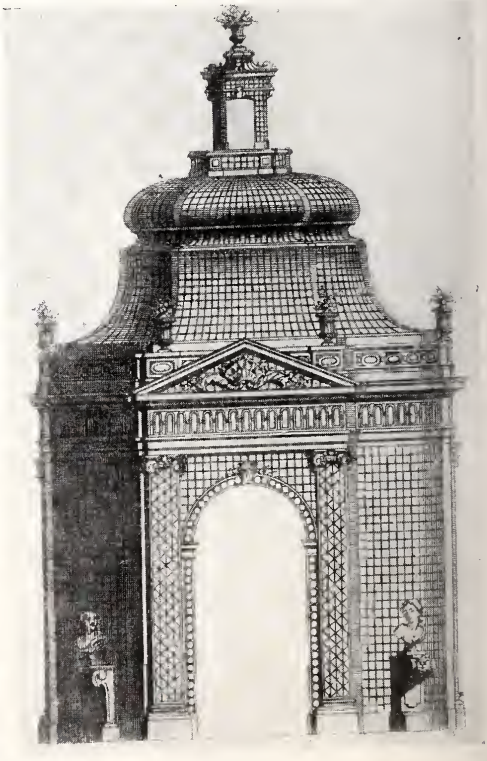


Fig. 3.

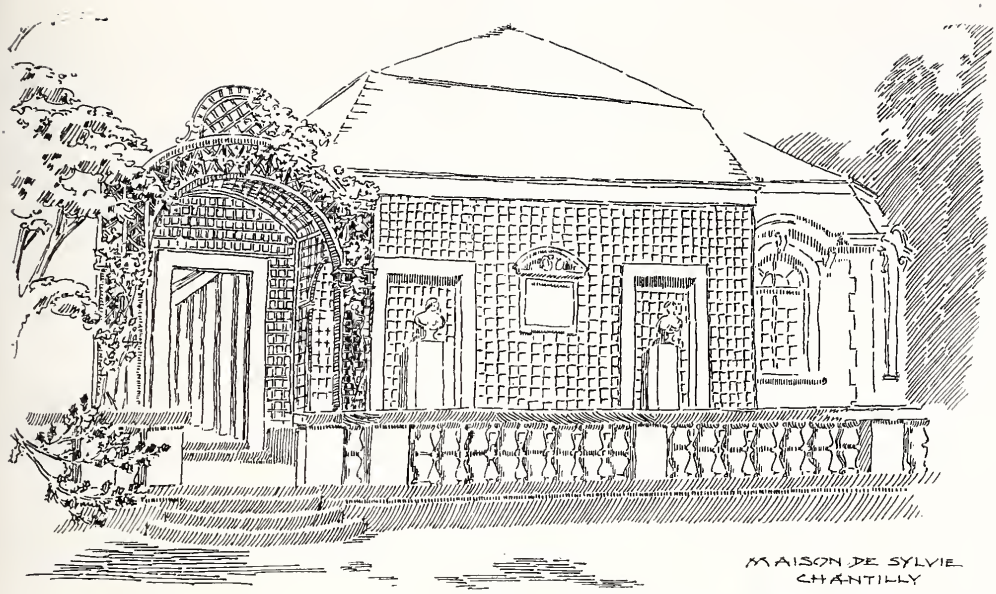


Fig. 1.

LATTICE DESIGN

By

Beverley Robinson

LATTICES, as used architecturally, show a wide diversity of type. Their greatest development is perhaps to be found in Moslem countries; every architect is familiar with the elaborately patterned screens to be found in Cairo, composed of innumerable skillfully turned and jointed pieces. Due to the perishability of wooden construction when exposed to the weather, few outdoor lattices remain antedating the eighteenth century. However, many examples of later date are extant both in Europe and in America.

Our Colonial architecture, having a wooden expression in all its forms, shows many excellent types, which match well with the wooden buildings; whereas in Europe their lack of harmony with masonry architecture has tended to limit their use to isolated garden pavilions, grape arbors and the like.

Patterns of the more utilitarian lattices are limited by custom to a monotonous repetition of squares, rectangles or diamonds, all of exactly the same size; and this narrow range of form is frequently applied to lattices intended to be ornamental, such as those which cover the broad surfaces of masonry of the Maison de Sylvie at Chantilly.

Where beauty has been sought in architectural lattices it has often been achieved by introducing a diversity of motifs, or by setting in separate ornamental panels of which the lines are discontinuous, as in the example shown in Fig. 2, a veranda of a house designed by Professor Louis H. Boynton, with a very delightful lace-like effect.

The next illustration, Fig. 3, from Blondel, is labeled "Decoration d'un Cabinet de Treillage Couronne d'un Dome en Lanterne," and is intended for

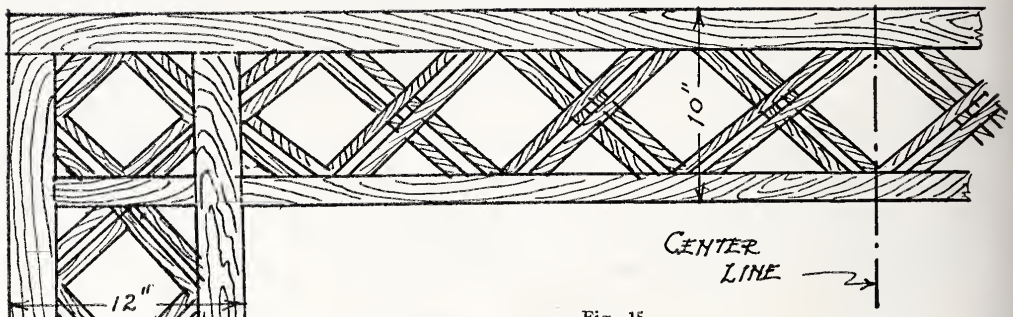


Fig. 15.

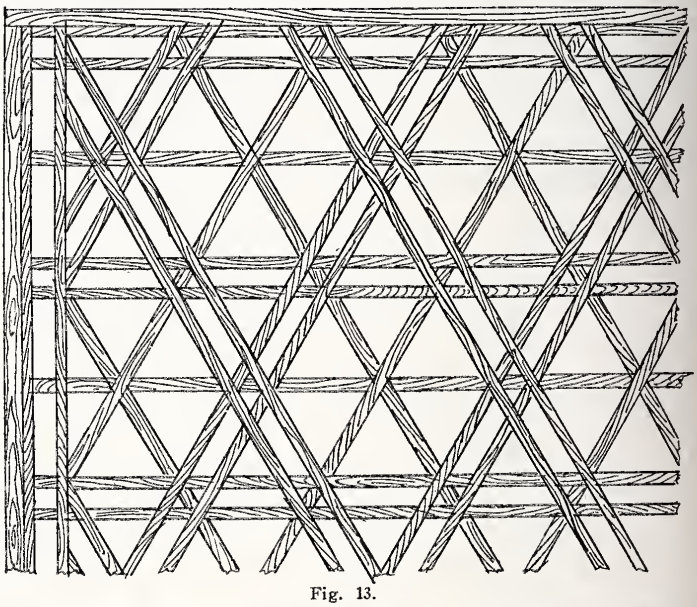


Fig. 13.



Fig. 14.

an isolated little latticed pavilion, similar to the Ile d'Amour at Chantilly and to others at the chateaux of Meaux and Marly. The interest here lies in the

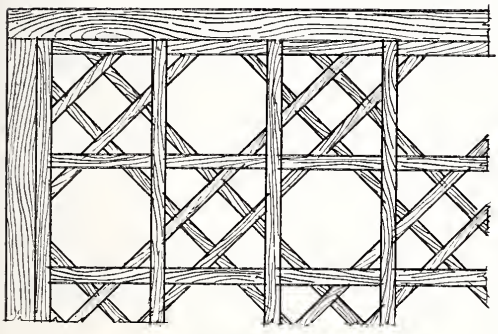


Fig. 8.

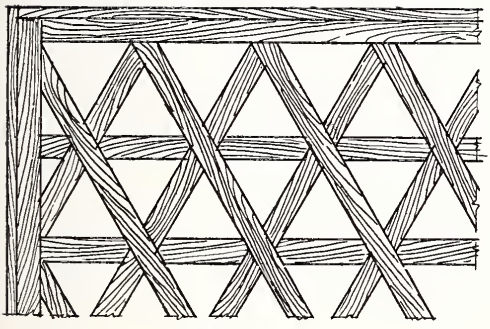


Fig. 9.

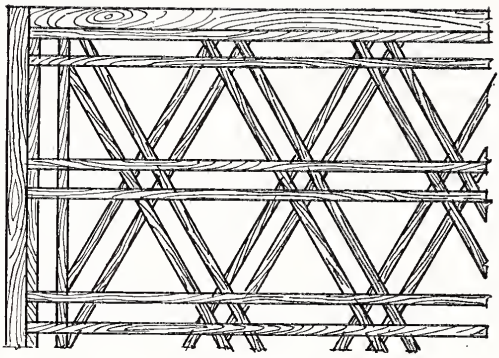


Fig. 11.

shapes of the lantern and urns which surmount the fantastic dome, and in such features as the frieze and archivolts; in other words, wherever there is a varia-

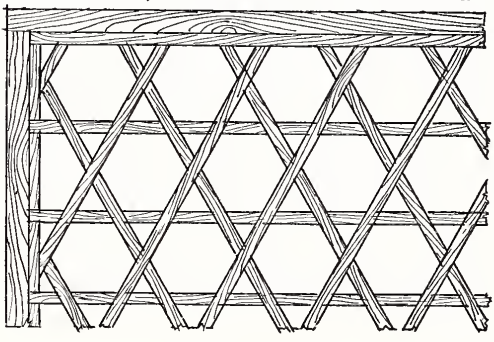


Fig. 10.

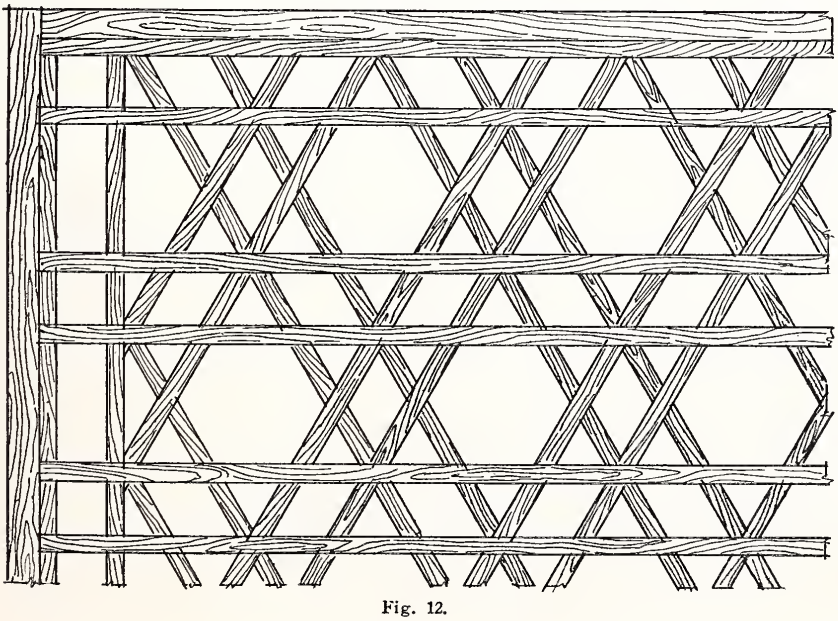


Fig. 12.

tion in the lattice motifs from the monotonous squares which form the filling in.

At no time does there appear to have been appreciation of the high ornamental possibilities in lattices designed in the simplest possible fashion, where the geometric motif repeats without stopping or interrupting the continuity of its lines. The accompanying diagrams show a few of these possibilities. All are founded on some simple geometric figure, regularly repeating in an interesting manner. It is striking how great is the variety of character through the combinations of but a few basic motifs.

Fig. 4 shows the lattice of squares in general use, but made attractive by adding two sets of diagonals. Refinement to the patterns is lent by the difference between the smaller diagonals and the wider verticals and horizontals. The effect of such a lattice against a natural background is far prettier than one would suppose from the mere diagram. The crossings in these designs count predominantly, and in this case appear to group themselves in a pattern of star shapes.

In Fig. 5 a difference is given to the same set of squares by placing the strips in pairs; and Fig. 6 shows the result gained by placing the same motif diagonally.

Fig. 7 is simply Fig. 6 with a set of single intermediates added, which gives it a wholly different aspect, suggesting a Scotch plaid. Another possibility of Fig. 6 is shown in Fig. 8, where by combining it with verticals and horizontals an octagonal pattern results.

A totally new set of designs can be made by using the parallelogram as a basis. The triangular motif of Fig. 9 is but a system of parallelograms set diamondwise, transversed by horizontals. Then, omitting alternates, the hexagons of Fig. 10 result.

Both the hexagonal and triangular patterns acquire a charming variation when worked out with double parallels, as in Figs. 11 and 12. Particularly interesting is Fig. 13, which is but a recombination of Figs. 9 and 12. The further one continues studying the matter, the greater seem the possibilities.

Lattices designed as above are extremely cheap, especially when built of thin strips nailed flat upon each other. Thus constructed they can be put up on the job without previous joinery at the mill. When the strips are as thin as three-eighths of an inch, as many as four may be nailed at one joint without the depth of the crossings being great enough to distort the motif of the lattice.

The little summer cottage shown in Fig. 14 is one of the rare cases where such continuous lattices have been used, and the result is surprisingly attractive. The diagonal patterns of the front fence and veranda sympathize with the slope of the roofs and the diagonal window panes. The posts and frieze of the veranda are built like Fig. 6, while the scale of the fence has been maintained by adding intermediate strips, making it like Fig. 7. The lattices between the piers under the veranda are like Fig. 4, although quite concealed by the herbage.

In both the veranda and the fence designs interesting irregularities are discernible in Figs. 14 and 15. The motif of the fence crosses the gate without changing its repeat, being uninterrupted by the posts; that of the veranda is built with studied variations, which are scarcely noticeable in execution and which give the charm of freehand work, recalling Professor Goodyear's accounts of the deliberately constructed irregularities of medieval churches.

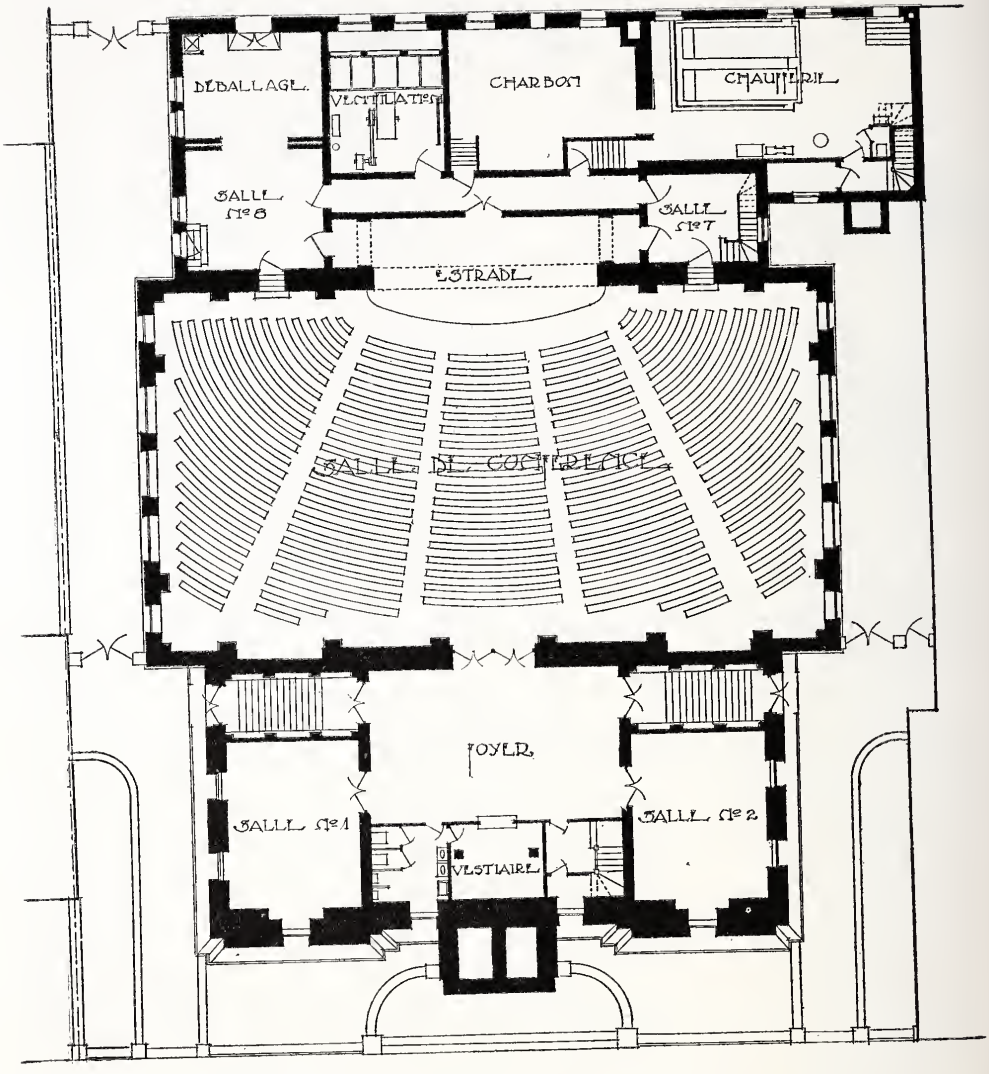
So successful was the result that, besides general approval, it compelled the spontaneous admiration of a passing twelve-year-old youngster, who stopped squarely in front of it, without being aware of my presence, and loudly voiced his sentiments: "Oh! What a beautiful gate! Oh! what a beau-tiful gate!" over and over again. The praise of twelve-year-olds is not usually given for flattery or politeness.

Besides serving as agreeable substitutes for the commonplace patterns that are in general use, such pleasing designs as have been suggested might be adapted to other purposes, as balustrades of stairs. A hexagonal motif might easily be made to fit an ordinary closed string stair, and could hardly fail to look exceedingly well.

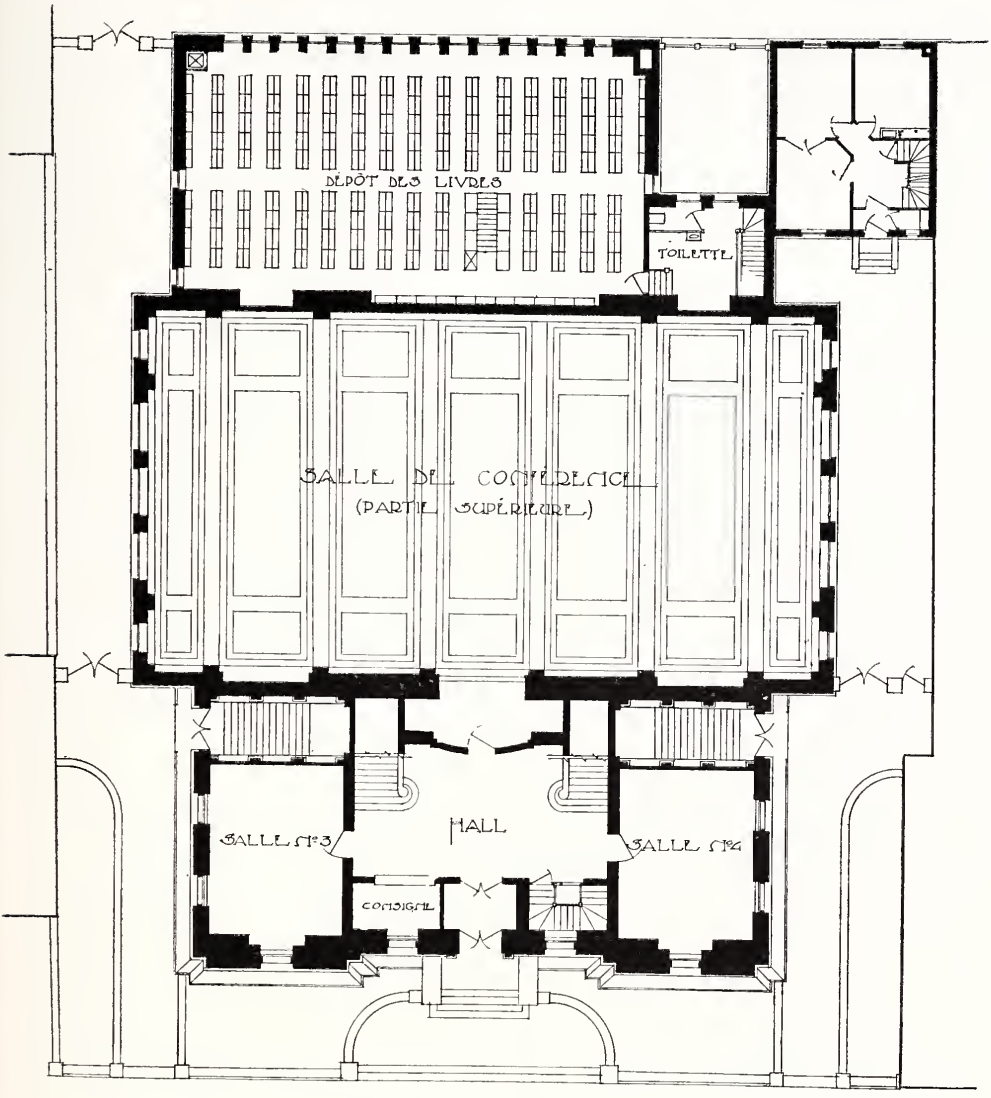
PORTFOLIO OF CVRRENT ARCHITECTVRE



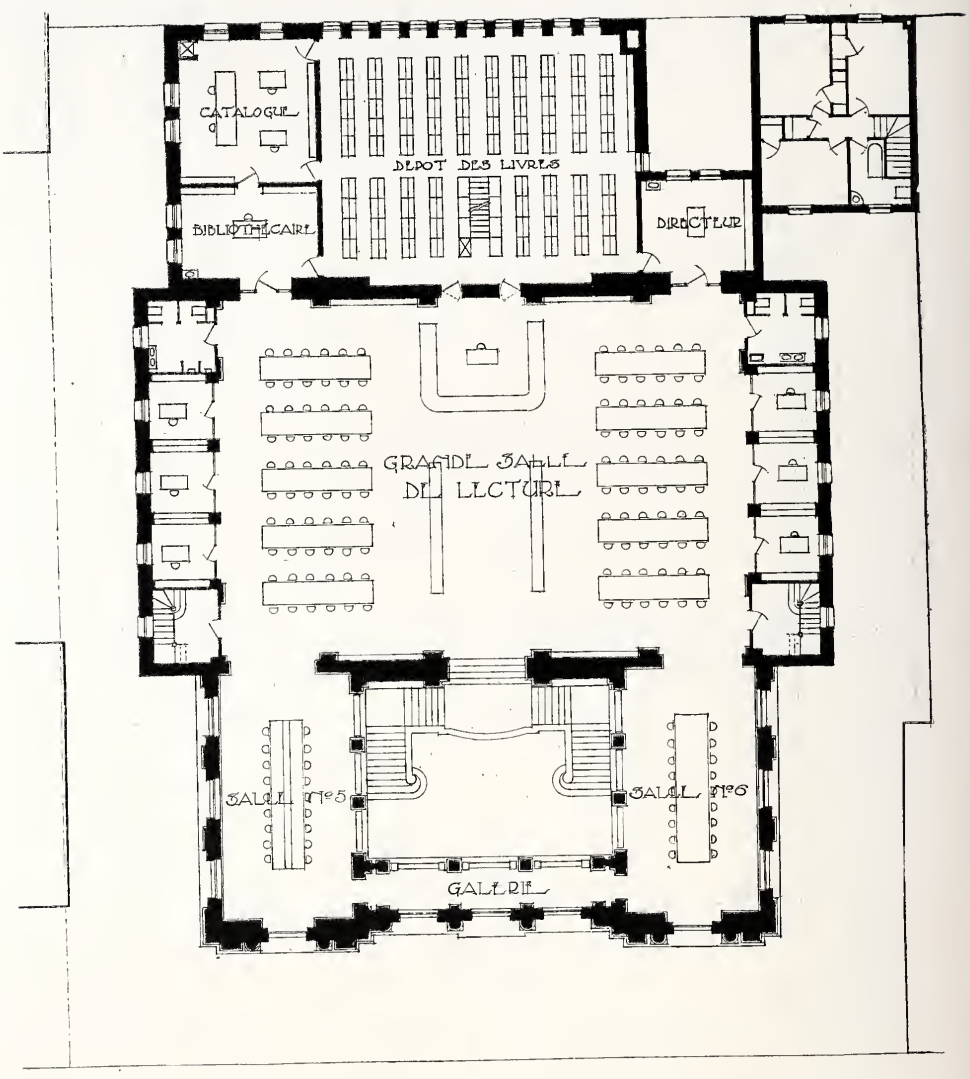
ENTRANCE—BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



LOWER FLOOR—BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



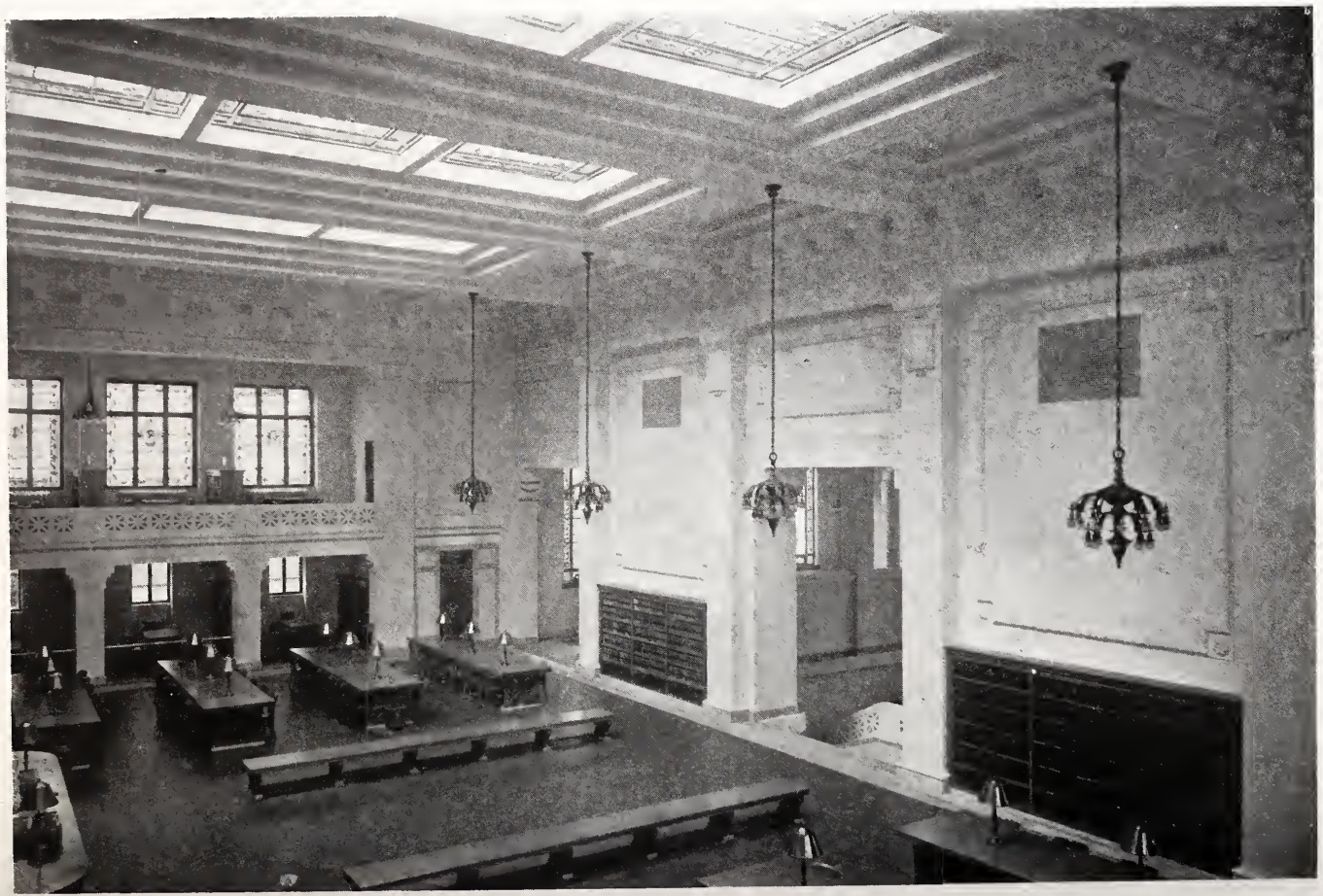
MAIN FLOOR—BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



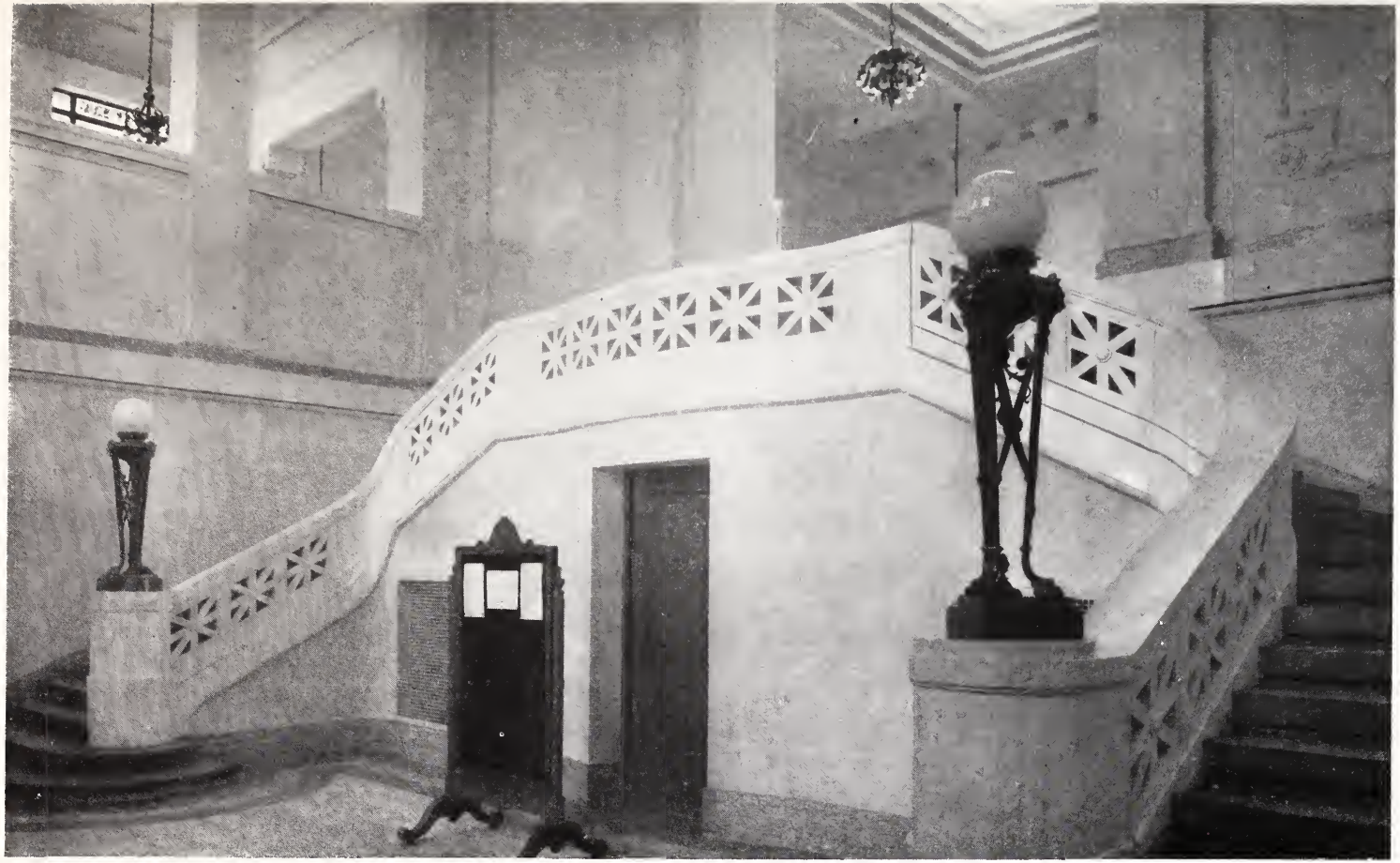
UPPER FLOOR—BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



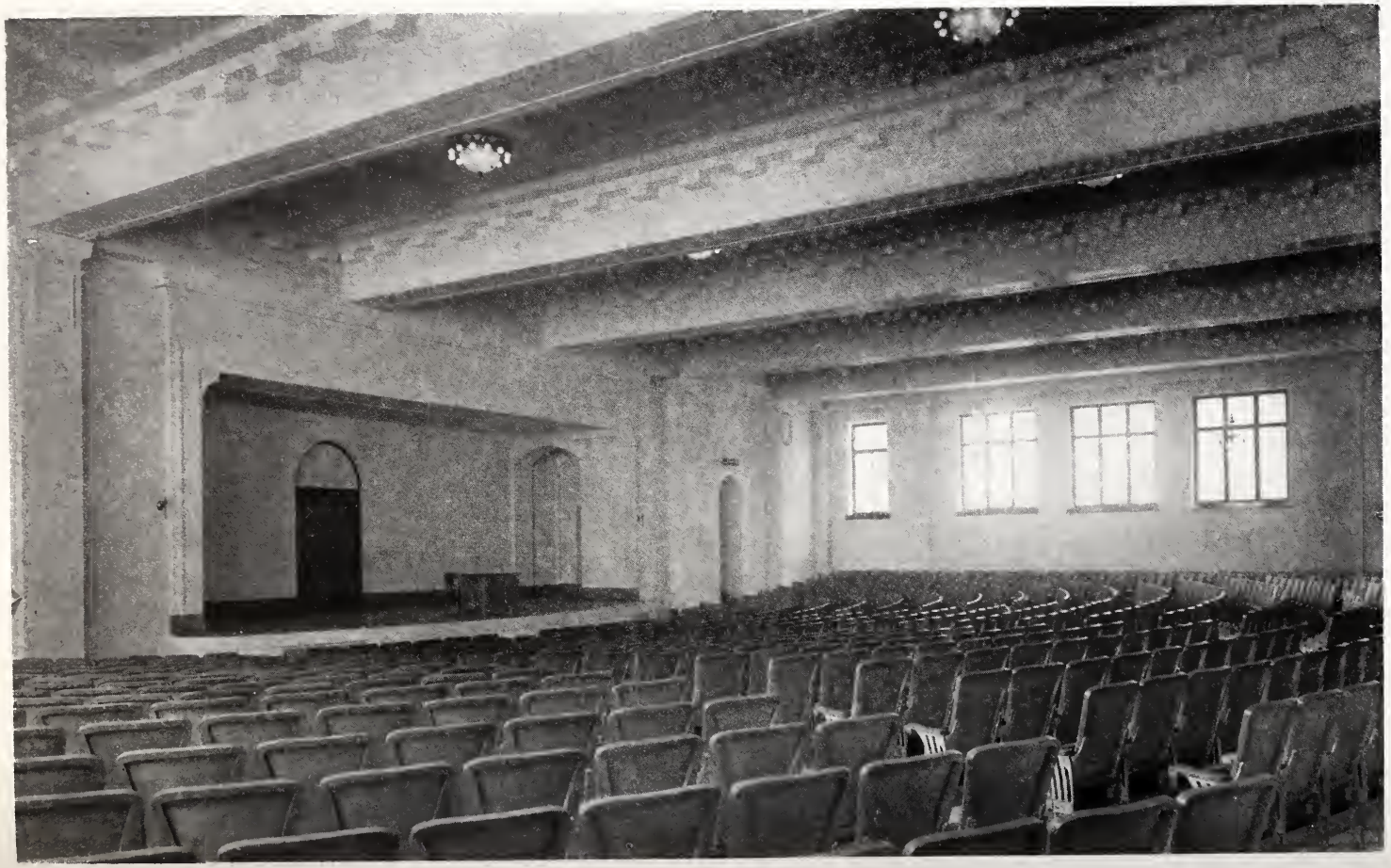
BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



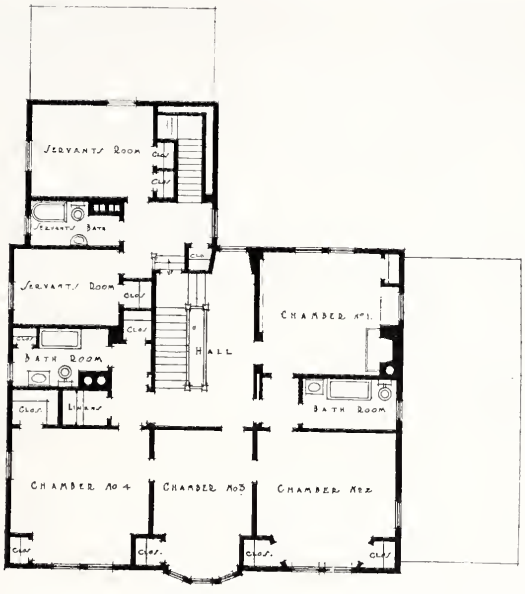
MAIN READING ROOM—BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



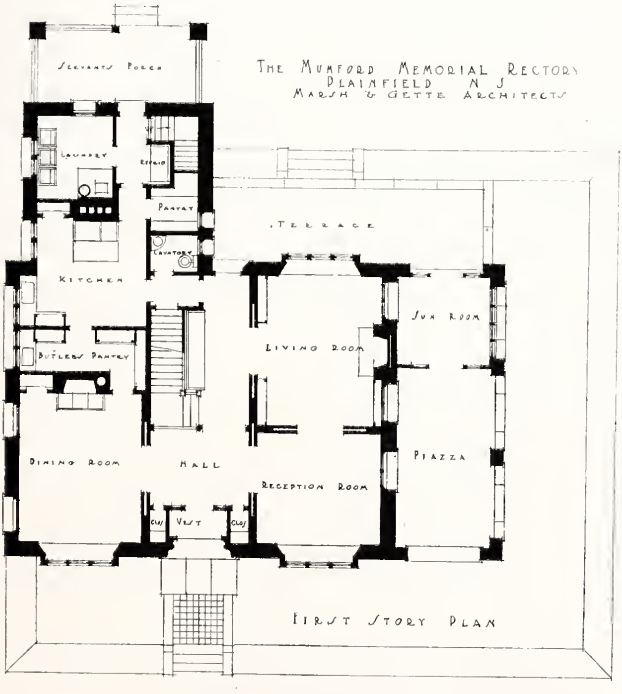
GRAND STAIRWAY TO MAIN READING ROOM—BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



LECTURE HALL—BIBLIOTHÈQUE SAINT-SULPICE, MONTREAL. EUGÈNE PAYETTE, ARCHITECT.



SECOND STORY PLAN



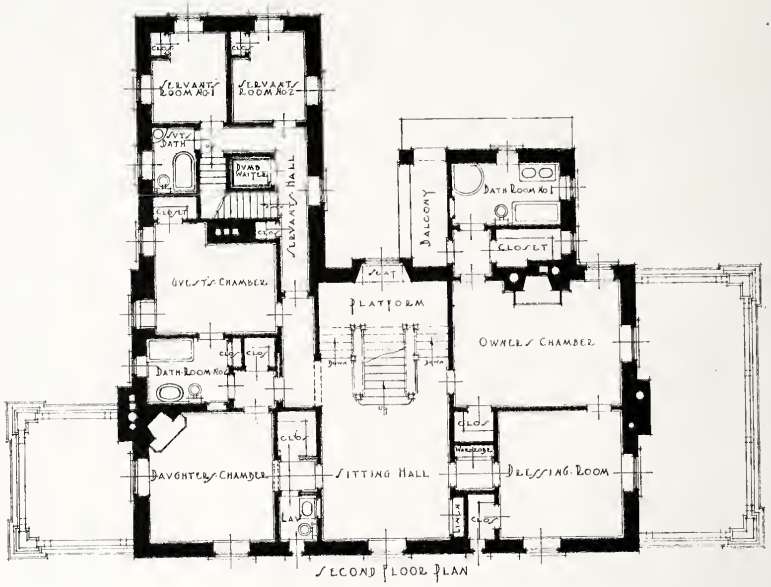
FLOOR PLANS—MUMFORD MEMORIAL RECTORY, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.

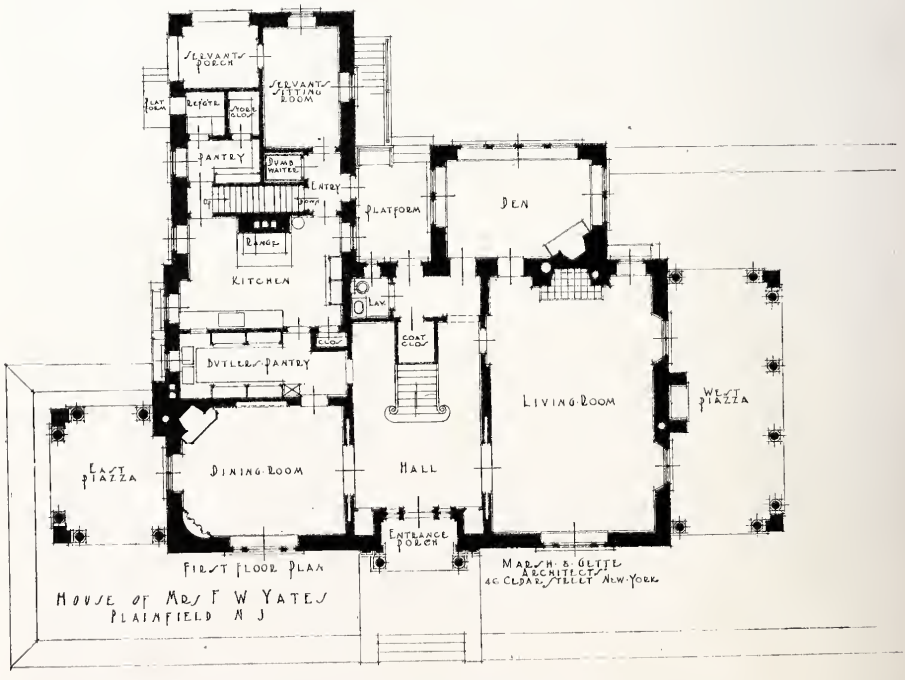


MUMFORD MEMORIAL RECTORY, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



REAR VIEW—MUMFORD MEMORIAL RECTORY, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.





FLOOR PLANS—RESIDENCE OF MRS. F. W. YATES, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



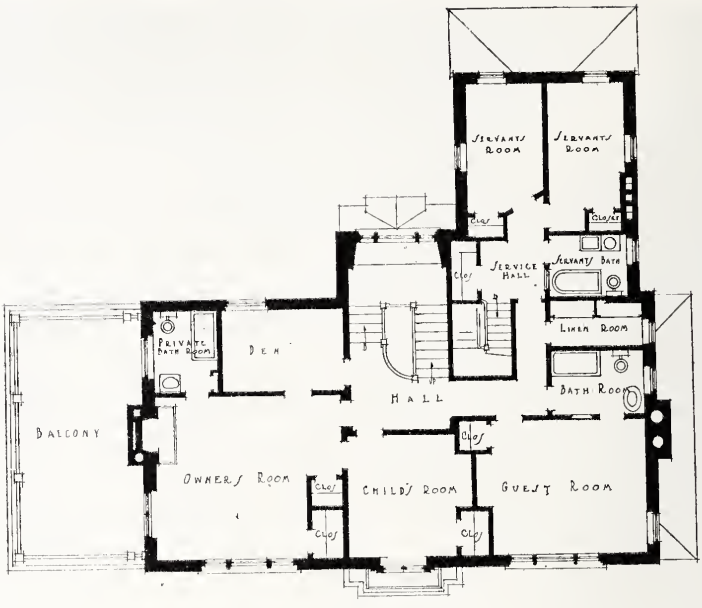
RESIDENCE OF MRS. F. W. YATES, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



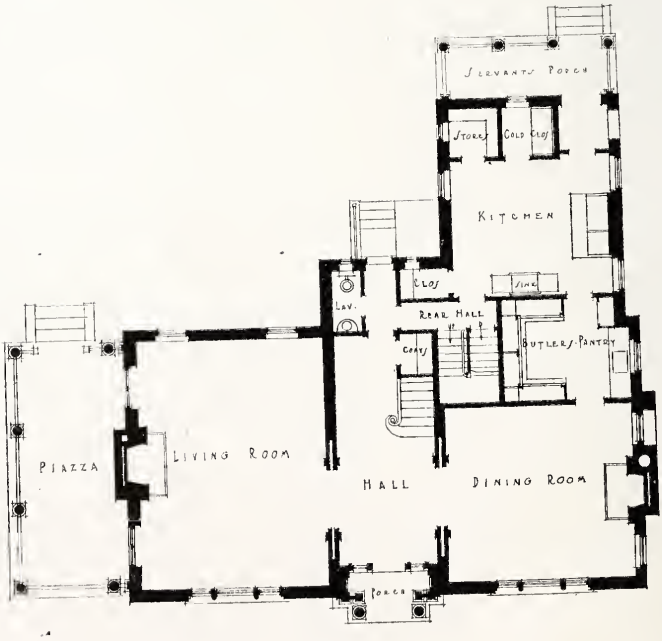
FRONT PERSPECTIVE—RESIDENCE OF MRS. F. W. YATES,
PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



GARDEN—RESIDENCE OF MRS. F. W. YATES, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



SECOND STORY PLAN



FLOOR PLANS—RESIDENCE OF MRS. E. C. R. LAIDLAW, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



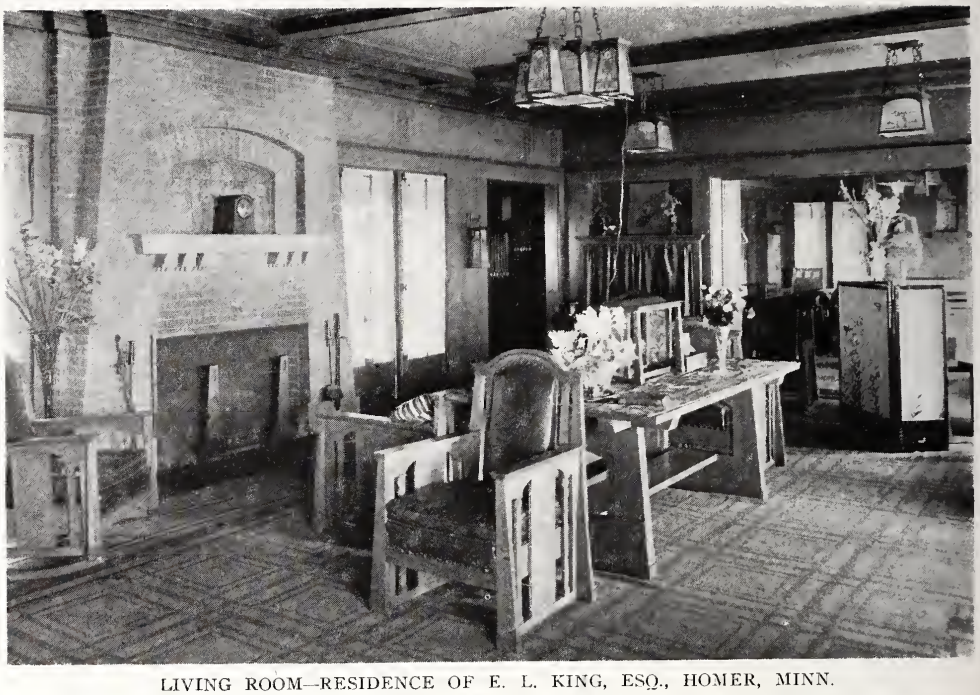
RESIDENCE OF MRS. E. C. R. LAIDLAW, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



DINING ROOM—RESIDENCE OF MRS. E. C. R. LAIDLAW, PLAINFIELD, N. J. MARSH & GETTE, ARCHITECTS.



DETAIL OF ENTRANCE—RESIDENCE OF E. L. KING, ESQ., HOMER, MINN. GEORGE W. MAHER, ARCHITECT.



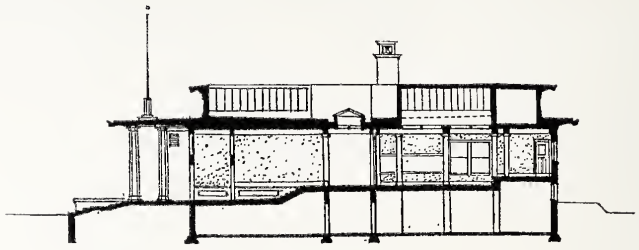
LIVING ROOM—RESIDENCE OF E. L. KING, ESQ., HOMER, MINN.
George W. Maher, Architect.



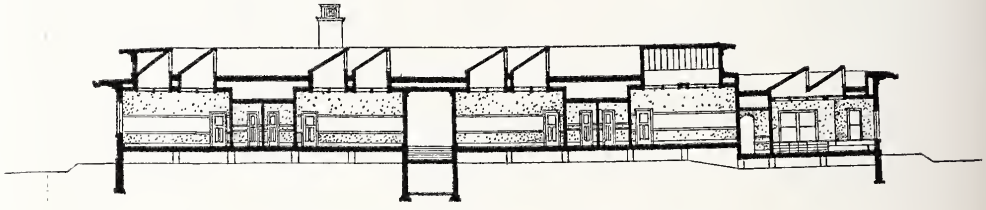
DINING ROOM—RESIDENCE OF E. L. KING, ESQ., HOMER, MINN.
George W. Maher, Architect.



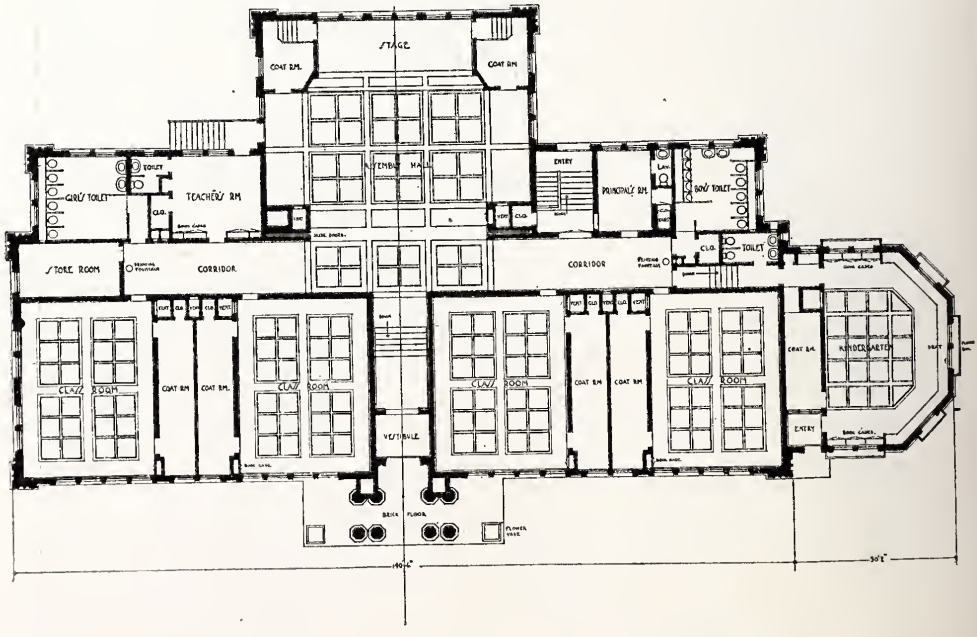
RESIDENCE OF E. L. KING, ESQ., HOMER, MINN. GEORGE W. MAHER, ARCHITECT.



TRANSVERSE SECTION



LONGITUDINAL SECTION SHOWING SAW TOOTH ROOF SKYLIGHTS OVER ALL CLASS ROOMS



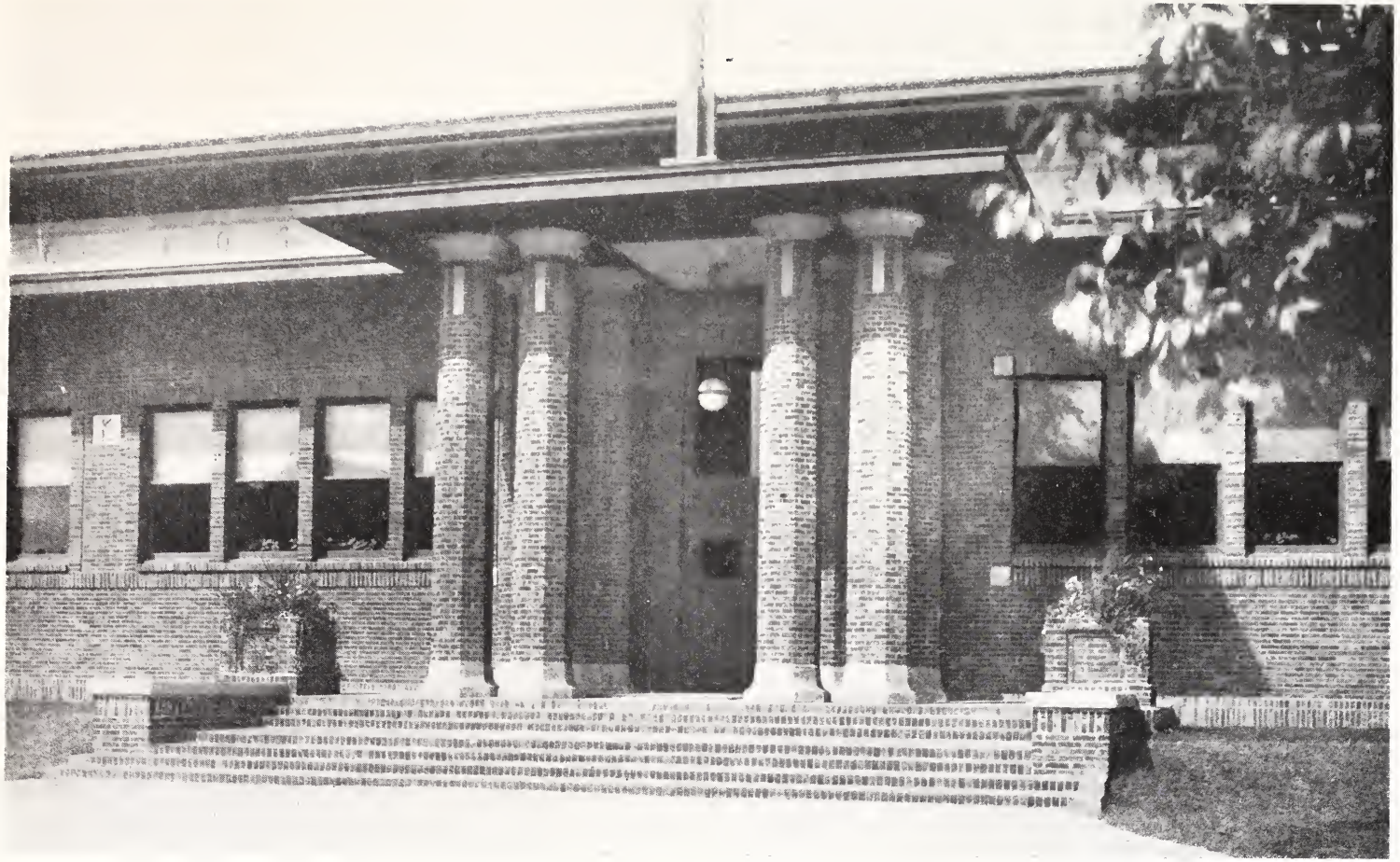
MAIN FLOOR PLAN AND SECTIONS—JOSEPH SEARS PUBLIC SCHOOL, KENILWORTH, ILL. GEORGE W. MAHER, ARCHITECT.



JOSEPH SEARS PUBLIC SCHOOL, KENILWORTH, ILL. GEORGE W. MAHER, ARCHITECT.



KINDERGARTEN ROOM WITH OVERHEAD LIGHT (NOT SHOWN IN PHOTOGRAPH)—JOSEPH SEARS PUBLIC SCHOOL, KENILWORTH, ILL. GEORGE W. MAHER, ARCHITECT.



MAIN ENTRANCE—JOSEPH SEARS PUBLIC SCHOOL, KENILWORTH, ILL. GEORGE W. MAHER, ARCHITECT.



ADMINISTRATION BUILDING—J. R. WATKINS MEDICAL CO., WINONA, MINN. GEORGE W. MAHER, ARCHITECT.

CHARLES COOLIDGE HAIGHT

MR. Charles Coolidge Haight died on the ninth of February at his home, at Garrison - on - Hudson, aged seventy-five. So passed away one of the strong architects of New York City.

His practice covered fifty years. It started in that dark period after the Civil War, when architecture was at its lowest ebb throughout the country, the Mansard Roof Age, when the speculative builder lined whole city streets with brownstone fronts, and his brother, the country carpenter, displayed a nimble ingenuity in jig-saw work and strangely patterned shingling. Among the people there was no appreciation of better things; the good old traditions were gone. Such an evironment meant esthetic death to all but the strongest natures. All honor, therefore, to those few men who could form high ideals and steadfastly follow them.

Mr. Haight studied a year at the Columbia Law School. Then came the Civil War, and he enlisted. At twenty-four he was Colonel of the Thirty-ninth New York Volunteers, was shot while in command of his regiment in the Battle of the Wilderness, and was invalided home.

It was afterward that he began his real life-work. A year in an architect's office, a year or so in traveling abroad, and he started in practice for himself. Keen observation and intense study made it possible, though the student period was always short in those days.

He had been brought up under strong church influence; his father, the Reverend Benjamin I. Haight, being assistant minister of Trinity Parish in New York, he was early taught to appreciate the scholarly Gothic work of Upjohn. It was natural for him to go to the churches and colleges of England for inspiration, while other architectural students of the time turned to the Paris school or to Italy and Rome.

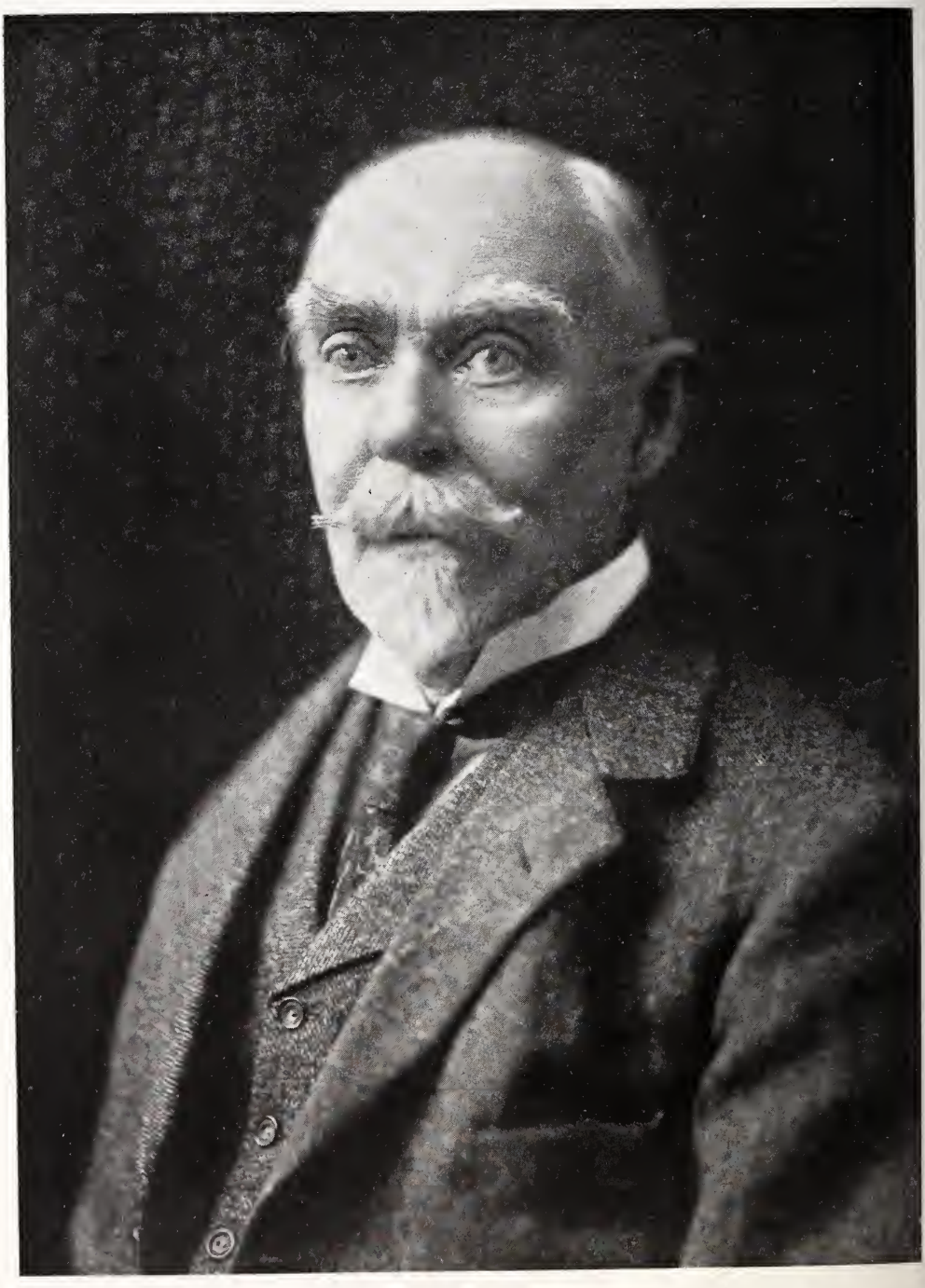
His practice grew rapidly. One small country church followed another. I have a color drawing of one of the earliest, half elevation, half perspective, with several incidental men and women promenading before it in the clothes of the period, the men with abnormally high silk hats, and the women with hoopskirts and shawls, holding absurdly tiny sunshades.

The architecture was crude compared with what followed later, though far better than most of the churches and other buildings built at the time. Improvement, however, was steady and consistent, and each design was better than the one before. His construction was excellent, rare in that jerry-building age. He went thoroughly into detail. His positive and conservative trend of mind, reinforced by his legal training, assured firm and definite contracts. His business management was perhaps hard at times, but beyond reproach. To him right was right and wrong was wrong, and there was no middle course.

His first great work was in designing the buildings of old Columbia College, that stood on Madison Avenue, where the New York Central is today. They formed an interesting group, an adaptation of Gothic, picturesque rather than regular, with long vertical lines of buttresses and pointed windows and steep gables.

Later he began the General Theological Seminary in old Chelsea, New York City. These buildings are of a different character, but here, it seems to me, he was at his very best. There is a quiet tranquillity in the long ranges of the earlier buildings with their wide mullioned windows and low-pitched gables and their delicious color in warm red brick and soft gray limestone, partly covered with ampelopsis vines.

The Chapel and Hoffman Hall are more severe, with a certain lofty dignity. With them a change came over his work, and there developed what would be called his "later manner" were he a painter. His style became more severe, more scholarly; it found perhaps its highest expression in the Yale University buildings. First came the well-known Vanderbilt Hall at the southern end of the Campus. Phelps Hall followed; then the first Sheffield Dormitories. I was associated with him in the later buildings,



CHARLES COOLIDGE HAIGHT.
1841-1917.

so know them best; they are the College Library, the Sheffield Tower, Oliver Hall, Mason Hall, and the great laboratory group at the head of Hillhouse Avenue. This was his last great work.

Strange to say, he built few churches in recent years; but the two best known rank well with his other work, for the interiors of St. Ignatius', New York, and the Military Chapel of St. Cornelius, on Governor's Island, are among the best things he did, dignified, lovely in color, a true expression of the Anglican tradition, yet with an individuality that is far beyond mere archaeology.

Perhaps this later work gave the truest expression of his personal character. He was a gentleman of the old school, dignified, reserved, not easily approached, courtly in manner, punctilious, reminiscent of an age that is passing away. He was highly respected by the men who worked under him, as their letters testify. Let me quote a letter just received from one of New York's greatest builders and contractors:

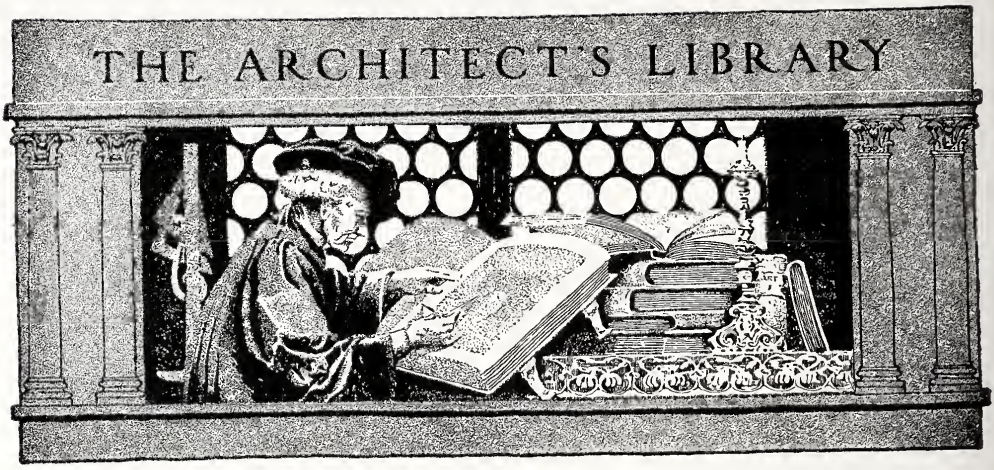
"As an evidence of the confidence which I think Mr. Haight inspired throughout the building trades, I recall the fact that, notwithstanding what we considered were unusual clauses in his special form of contract, and which would have been strenuously objected to under other circumstances, we felt absolutely safe in view of Mr. Haight's invariable fairness and habit of doing justice to both parties; contracts could be signed almost without reading them except as to amount and I cannot recall even a dispute arising in any work executed for Mr. Haight by my office. I have heard many others say the same thing of Mr. Haight, and all those who have done business with him will feel the loss, not merely of his work, but of the influence which his handling of affairs had in building up a proper relation between the architect and the building trades.

"The architects of his generation who were at the top when I came to New York are nearly all gone, including Hunt, Post, Price, McKim, Stanford White, Clinton, Russell, and now Mr. Haight, and their successors certainly have a large gap to fill."

As to the influence of his professional life, who can say how far it has extended? In many ways the force of a strong man's example is felt as an incentive, but who can say just when and where? He was one of those who made the profession of architecture respected here as it is today. He was eminently conservative in business methods, and his influence was always on the side of tried and solid construction. I remember Mr. McKim's advising me years ago to accept a position Mr. Haight then offered me, for he said there was no better constructionist in New York and no one of a higher standing in sound business management. He was a strong partisan of Gothic architecture and doubtless did as much as any man to make the people appreciate it and desire it for their schools and colleges, and to break down their narrow point of view that Gothic was appropriate only for their churches.

The Gothicists have lost a strong partisan; an honorable and able business man is gone; but his work is accomplished, and the profession of architecture is the better through his having lived.

ALFRED MORTON GITHENS.



THE SCAMMON LECTURES FOR 1915

By PETER B. WIGHT

THE Art Institute of Chicago has just published, through the University of Chicago Press, the six Scammon Foundation lectures delivered during the season of 1915. The lectures* comprise the eleventh series.

All the lectures of the ten previous years have been published, and the course in each year has been delivered, I believe, by a single lecturer. In the present instance the course, on the general subject of architecture, is elucidated by three architects of distinction, two lectures having been assigned to each, and each having selected his own topics. The first two are by Ralph Adams Cram, the second two by Thomas Hastings, and the third two by Claude Bragdon. Through this selection of lecturers each of the leading, mutually antagonistic, schools of thought in relation to the art of architecture has found eloquent and authentic interpretation.

Than this book no better evidence of the unsettled condition of architectural art could be put before the public. Forty years or more ago, when some of us were young practitioners, architects at their meetings discussed these same topics until the "battle of the styles" became so embittered as almost to disrupt their organizations, and it became necessary to call a truce for the sake of peace and to give more attention to practical matters. At that time architects had little historical or practical knowledge of the styles they were talking about. But the last thirty or forty years have witnessed a vast amount of research and investigation that was lacking before, and disputants are now furnished with facts which make it possible to construct learned arguments on each side.

The volume before us is a signal example of the advance in knowledge. It is equally notable as testimony to the effect that increased knowledge has brought about little, if any, progress toward stylistic agreement. Mr. Cram extols Gothic architecture; Mr. Hastings exalts the Renaissance, and Mr. Bragdon urges the validity of the aims of the Progressive school.

Mr. Cram starts out with the assertion that "all great architecture is organic; every building that has endured or will endure as a monument of good art is, in a very real sense, a living organism." The subject of his first lecture is "The Begin-

*The Scammon Lectures for 1915, published for the Art Institute by the University of Chicago Press, Chicago, Ill. 8vo.; pp. 172, 35 photogravure ills. $2 net.

nings of Gothic Architecture;" that of the second, "The Culmination of Gothic Art." Of modern art he says: "Art today is in the condition of Germany after the break-up of the Empire (that is, the old German Empire), a hundred little piffling states, none knowing where it was or what it existed for, and with no co-ordination and no sense of unity. As there at times, through the whim of fate, some margrave or grand duke or elector was born greater than his kind, who gave for a moment a sudden splendor to his little state, so now, in any one of the arts, may arise, and does arise, a genius who spreads a temporary glory on his little art, as Wagner or Browning or Richardson or St. Gaudens or Sargent; but each passes, and art returns again to its normal level of mediocrity and general aimlessness."

In conclusion he refers to the great war in Europe as connoting the breakdown of modern culture, which, being without unity in religion, in philosophy, in ideals of life, have been incapable of producing a uniform, organic art: "It (the condition which brought on the war) has led us back to the discovery of the comprehensive, stimulating, and character-building culture behind it (Gothic art). Through these things we can gain an answer to the appalling question forced on us by the great war, seeing now the true nature of the civilization that could have issue in such a thing as this, realizing where . . . right rests and wrong, and finally realizing the lines on which, once the surging of the world is over, the new era must be built if the benevolent and regenerating culture of true religion, sound philosophy, and vital art is to return to a wasted but repentant and regenerate world. . . . The study of medieval art and medieval culture is not, at this time, a trivial playing with archeology. It is the finding of the answer to the great question propounded by the world at war."

Mr. Hastings' lectures deal with the "Principles of Architectural Composition" and "Modern Architecture." They are in effect an argument for the teachings of the modern French school of Renaissance architecture. The argument is put in what is probably the most effective form it has assumed in English, being the work of a practitioner who is also a scholarly theorist. It assumes that Classic architecture exists and always has existed, having been brought down from Egypt and Assyria through Greece, Rome and Byzantium, and, finally, Romanesque art, which continued to use Roman details. After an interruption by the Gothic in the twelfth, thirteenth and fourteenth centuries Classic architecture reappeared in the fifteenth; it had never entirely disappeared in Italy. Coming to its own again in the Renaissance, it has continued to be the prevailing style in continental Europe, in England, and in America through the Colonial period. Furthermore, we have always used it in the construction of government buildings down to the present time.

Mr. Hastings advocates the Renaissance style of architecture for all buildings. He condemns the use of different historical styles for different classes of buildings, opposing all eclecticism in most positive terms. He condemns with equal earnestness those who would "break with the past" and those who would "select from the past," and the "would-be style inventors" are classed with "Futurists, New Thinkers, Cubists and Art-Nouveau followers." The majority of people, he says, "do not seem to realize that in solving the problem of modern life the essential is not so much to be national, or American, as it is to be modern and of our own period." Renaissance architecture is modern, the latest phase of the direct line of evolution from the Classic origins of architecture.

The following quotations are given because of the interesting light they throw upon the methods of work of a successful practitioner: "In our study," says Mr. Hastings, "in order to understand fully the true condition of things and the real proportions and the scale of our building, we should always blacken-in the walls of our plan, and draw and color-in the shadows of our façades and sections; otherwise we can never judge how the building will look in execution. This way of rendering drawings reveals the true proportions and conditions of things, while a

perspective drawing distorts and misleads."

"Mere work never made an artist; a great work was never produced without great working. A man can never be a great artist without great industry. . . . A man may think that he must wait for a so-called inspiration; but the real artist will find something to do for every hour and leave inspiration to take care of itself. Inspiration will come oftener and with greater power when the artist works without waiting for it."

"The most difficult thing in composition (and I believe this to be true of all art) is to know how to be simple, but to be simple without being stupid and colorless; to be firm and strong without being hard and angular; to have good detail, which, on the one hand, does not assert itself to the injury of the ensemble, and, on the other hand, is not timid for want of a fear of refinement."

Mr. Bragdon's first lecture, entitled "Organic Architecture," is an unusually clear statement of the condition of modern architecture:

"We observe a great confusion of ideas upon the whole subject of architecture, not alone on the part of the public, but in the profession itself. Eminent architects are found to differ widely in their opinions, and these differences find expression in their work. It is clear that there is no common agreement among them as to what constitutes excellence. If we apply only the criterion of everyday common sense it would appear that the modern architect has not yet grasped the modern problem. Let me try to prove to you that this is so."

Then follow these propositions, each of which is enlarged upon in a paragraph:

"First, the architect of today fails to think and work in terms of his place.

"Second, the architect fails to think and work in terms of his time.

"Third, the architect fails to think and work in terms of his materials."

Mr. Bragdon then proceeds:

"When we come to consider architecture throughout the world and down the ages, we find it bisected by a like inevitable duality: either it is *organic,* following the law of natural organisms; or it is *arranged,* according to some Euclidian ideal devised by proud-spirited man. In other words, it is either cultivated, like the flower, or it is cut, like the gem. . . .

"It is important that this fundamental difference in aim and method should be clearly perceived and thoroughly understood. This will be best accomplished by comparing and contrasting Gothic architecture, which is pre-eminently a striving toward a free organic expression of plan and construction with Renaissance architecture, wherein predetermined canons of abstract beauty are imposed."

Then follows a discussion of the relation of form to function, showing that Gothic is a manner of building in which the form is everywhere determined by the function, changing as that changes; while Renaissance architecture, on the other hand, represents an ideal in conformity with which the function is made to accommodate itself to forms and arrangements chosen less with a view to their exact suitability and expressiveness than to their innate beauty. "In short, Gothic architecture is *organic;* Renaissance architecture is *arranged.*"

Mr. Bragdon's second lecture, on "The Language of Form," is a valuable and suggestive exposition of his views as to possible sources of new forms in art and ornament. To this exposition I cannot do justice in a small space, and will therefore merely commend it to my readers' attention, closing with this finely expressed thought of Mr. Bragdon's:

"Do not conceive of beauty in any narrow way, as limited to mere esthetics. Seek out the things that thrill you and be sure that there is beauty in them, for the test of beauty is the measure of the joy it brings. Beauty is mystery and enchantment, the thing with star dust on it. Learn to recognize the brush of its invisible wing, not alone in art galleries and concert halls, but in a face in a crowd; a song at twilight, moonrise, sunset; in the din and glare of cities as well as in the silence of great spaces; in the train taking its flight to the seaboard as well as in the crow taking its flight to the rooky wood."

The Scammon Lectures for 1915 is a stimulating discussion of the conflicting ideals vital in American architecture.

BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

Part V.—Furniture and Furnishings (Continued)

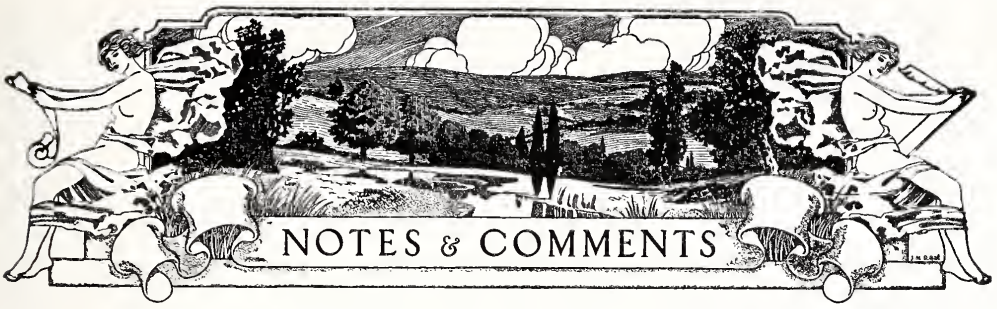
UNDER the second major class of works which concern entirely or else give part of their pages to a treatment of furniture are to be included collections of photographs and sketches. Of these there are quite a number, and invariably of excellent quality. All reserve a goodly number of plates for interiors and several show items of furniture or other details separately. Above all, we must note the fine volumes in which Mr. Eric Ellis Soderholtz was concerned, either as sole author, namely: *Colonial Architecture and Furniture* (Folio; pp. 6 and 60 plates. Boston; G. H. Polley and Company; 1895. Rare); or else in collaboration with Mr. James M. Corner, namely, in *Examples of Domestic Colonial Architecture in New England* (Folio; no text, 50 plates. Boston; The Boston Architectural Club; 1891. Rare); or with Mr. Edward A. Crane, namely, in *Examples of Colonial Architecture in South Carolina and Georgia* (Folio; no text, 52 plates. New York; Hessling and Spielmeyer; 1895. Rare). These works deal with various regions, but in all cases include a number of fine reproductions of well-selected details of carving and also good examples of doorways or mantels or portable furniture pieces. The same is true of two publications by N. W. Elwell, *Colonial Furniture and Interiors* (Large folio; pp. 6 and 66 plates. Boston; G. H. Polley and Company; 1896. $12.50), and *The Architecture, Furniture and Interiors of Maryland and Virginia During the Eighteenth Century* (Large folio; pp. 6 and 63 plates. Boston; G. H. Polley and Company; 1897. $12.50).

Other works containing collections of photographs which will be found of value are those by Frank Cousins, *Colonial Architecture,* series I, containing *Fifty Salem Doorways,* with introductory text by Glenn Brown (Folio; 50 plates. Garden City, L. I.; Doubleday, Page and Company; 1912. $5), but unfortunately not continued beyond the first series; and by George Henry Polley, *The Architecture, Interiors and Furniture of the American Colonies During the Eighteenth Century* (Large folio; pp. 5 and 90 plates. Boston; G. H. Polley and Company; 1914. $40). All of these volumes likewise received more extended notice at an earlier date in this series.

Of greatest value for the architect interested in Colonial furniture are, of course, the books of the third class, according to our subdivision at the beginning of this study, namely, those which contain plates of measured drawings. Of these there are all too few. First and foremost stands the *Georgian Period,* to which we have so often referred, with which every architect is familiar, and which serves as a sort of gospel for many of his tribe. *The Georgian Period* contains dozens of excellent drawings of carved and wrought details, of furniture, of mantels, and many other types of decoration that fall properly within our province of furniture at the moment, since we have construed this to cover furnishings and to include various kinds of carved and wrought accessories. Beside this collection of plates all others must at first seem insignificant. Obviously there is room for hundreds of collections of measured drawings and, to the credit of authors and publishers alike be it said, more and more of these works are being undertaken. There is a great need for them, for the information they bring is of the reliable kind to which alone the architect and designer may pin his faith. Two excellent series of plates in this field are again of regional type: William Davenport Goforth and William J. McAuley's *Old Colonial Architectural De-*

tails In and Around Philadelphia (Folio; no text, 50 plates. New York; William Helburn; 1890. $12), and Lois L. Howe and Constance Fuller's *Details from Old New England Houses* (Folio; no text, 50 plates. New York; The Architectural Book Publishing Company; 1913. $9), of which the latter is an especially commendable piece of work. Of similar character, but less useful for us here, is *Old Philadelphia Colonial Details* (Large folio; no text, 55 plates. New York; The Architectural Book Publishing Company; 1914. $10), by Joseph Patterson Sims and Charles Willing, and credit for priority in this field, as well as for good results, must be granted the two publications by Frank E. Wallis, *Old Colonial Architecture and Furniture* (Square folio; pp. 6 and 60 plates. Boston; George H. Polley and Company; 1888. Rare), and *American Architecture, Decoration and Furniture of the Eighteenth Century* (Quarto; no text, 52 plates. New York; Paul Wenzel; 1895. $7.50). It is noteworthy that the former of these books was issued in 1888. We should also mention in this connection Donald Millar's *Measured Drawings of Some Colonial and Georgian Houses* (Folio; 2 vols., pp. 6 and 40 plates, and pp. 4 and plates 41 to 80. New York; The Architectural Book Publishing Company; 1916. $25). This is a collection of distinctly useful and intelligent plates, although the author is handicapped in his presentation by poor reproductions. We might also suggest that details be presented at larger scale and that lighter paper stock be used. A lighter paper with greater tensile strength should invariably be used in books of measured drawings, for such books receive too much handling in daily practice. The heavier paper stock so often used is too dry and soon becomes brittle from much handling; and what is more, cannot be strengthened so readily by mounting on cloth. These criticisms must be taken to apply, however, to the publishers rather than to the author's part in the work. The details shown by Mr. Millar are of decided value, well selected and thoughtfully presented.

We cannot too highly commend, in this connection, the excellent collection of drawings by Alvin Crocker Nye, published under the title *A Collection of Scale Drawings, Details and Sketches of What Is Commonly Known as Colonial Furniture, measured and drawn from antique examples* (Large folio; pp. 5 and 55 plates. New York; William Helburn; 1895). The author maintains a uniform scale for his drawings, a method of presentation which greatly enhances the instructive value of his plates. In many cases he has introduced perspectives, and these likewise he has as a rule constructed mechanically at a uniform scale, and he has even placed all perspectives in corresponding positions on his plates. In the case of perspectives which are drawings made directly from the object the author has placed them elsewhere in his plates to avoid confusion. The book contains no photographs; a few of the latter might give added interest to the plates. As it stands, however meagre and seemingly insufficient in the quantity of plates included—there are but fifty-five—we do not hesitate to say that this volume is in its conception and mode of presentation the most thoroughly useful book in the field of Colonial furniture that has yet been issued, and the date of its publication is 1895. In over twenty years no similar collection has appeared; it is high time that others were prepared, for our increased knowledge of the field and the contemporary general interest in furniture of our formative decades would render such works particularly useful to men in practice as architects, as decorators and as furniture designers.



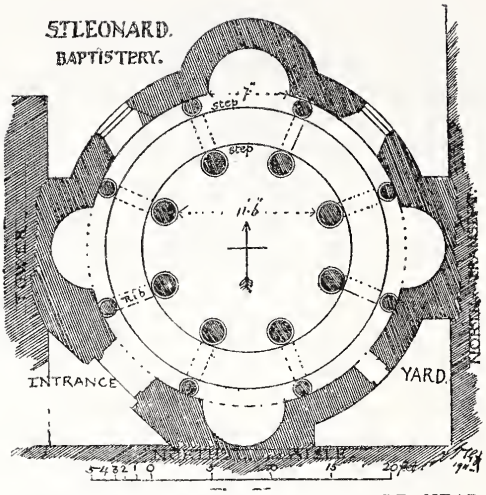
The Baptistery of Poitiers.

Undoubtedly the most interesting archaeological study in early Christian art on French soil is that offered by the ancient Baptistery of Saint Jean at Poitiers. As some outpost of a civilization long departed, this monument has continued to elicit inquiry. Like many another early building it has been piled high with accretions in varied subsequent styles and media, and the materials of the structure have been repeatedly reconstituted. No doubt its continued vitality is due in part to the fact that a controversy attaches to its fabric and in part to the fact that it is situated in Poitiers, a haven of French art, and, what is more, in a commanding position upon a main roadway which had to be deflected to save the edifice, so that even a casual passer-by is bound to note its character and to be struck by its position beneath the level of the present streets.

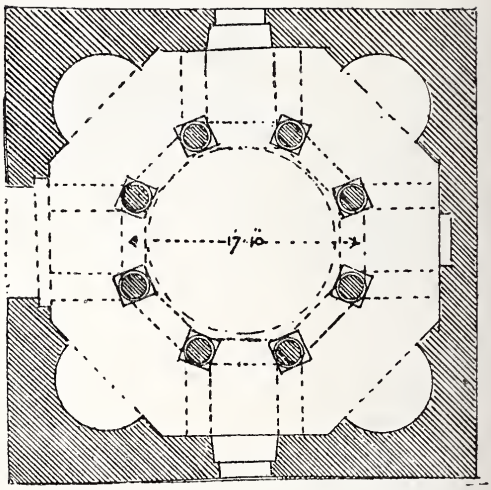
The controversy in regard to this building is engaged with its probable primary use and with the date of its erection. It has variously been considered an old tomb, a small pagan temple, or an early Christian baptistery. Much light has been cast upon these points and a decidedly better understanding of the building made possible by the researches of the Père de la Croix, whose analysis of the structure has remained since 1903 the most reliable source of information concerning it. This authority maintains that the initial use of the building was that of a baptistery, and while others have assumed that its primary construction was due to Bishop Ansoaldus (682-686), de la Croix assigns its first construction to the fourth century of our era—that is, in the Gallo-Roman age in France—adding that modifications of the structure occurred in the seventh century, the building having remained intact since that time.

While a goodly number of texts are adduced to demonstrate that an early Christian baptistery could have brought about complex plan requirements—demanding, for instance, separate accommodations for a vestry, a sacristy, a bishop's room or office and the like—still it would seem reasonable to assume that only the most radical differences in faith and practice could have encouraged so radical a differentiation in the architectural form of a baptistery in old France from that followed in other parts of Europe, and even of Africa and the near East, during six or seven centuries of church history. Most interesting examples to the contrary are found, for instance, at Civray sur Cher, at St. Léonard near Limoges, and in the Panthéon at Riez, in France, and likewise at Ravenna in Italy. Such buildings are invariably and distinctly radial in plan, circular or polygonal—preferably octagonal—or occasionally in the form of a modified square. There are in other extant baptisteries no plan subdivisions and no accessory rooms, although there is sometimes the suggestion of an aisle or ambulatory due to the disposition of columns or other supports with reference to a domical roof usually of a diameter less than that of the circle or octagon of the inclosing walls. What is more, the further back we go in ecclesiastic history—especially if we deal with the fourth century, when it is believed that this building was erected—the more decidedly is a circular or polygonal building needed for this purpose, since the baptistery was always a distinct building in the early church and since complete immersion was a requirement of the rite of the baptism.

The Baptistery of St. Jean at Poitiers differs in all respects from the characteristic plan. The earliest portion of the building is composed of a central rectangle of greater width than depth, with apse-like projections at its sides and back. Those at the sides seem to have been at first rectangular in the exterior and semicircular within, but

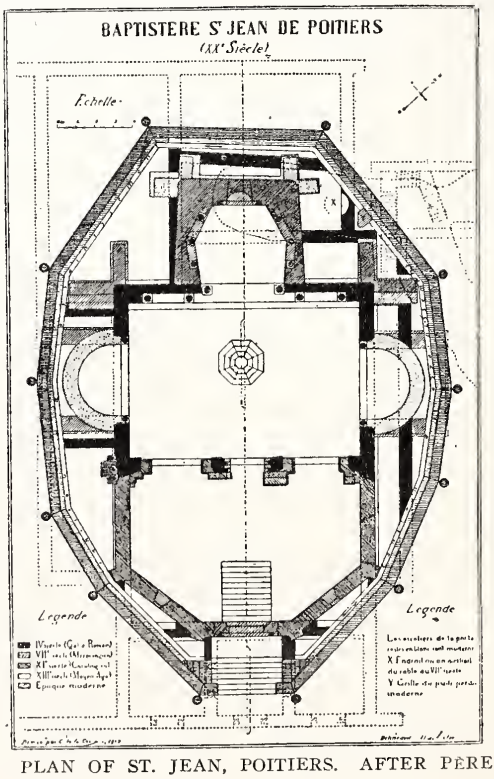


PLAN OF BAPTISTERY OF ST. LÉONARD, NEAR LIMOGES. FROM JACKSON, "BYZANTINE AND ROMANESQUE ARCHITECTURE."



PLAN OF BAPTISTERY, RIEZ, IN PROVENCE, KNOWN AS "THE PANTHÉON." FROM TEXIER AND PULLAN, "ARCHITECTURE BYZANTINE."

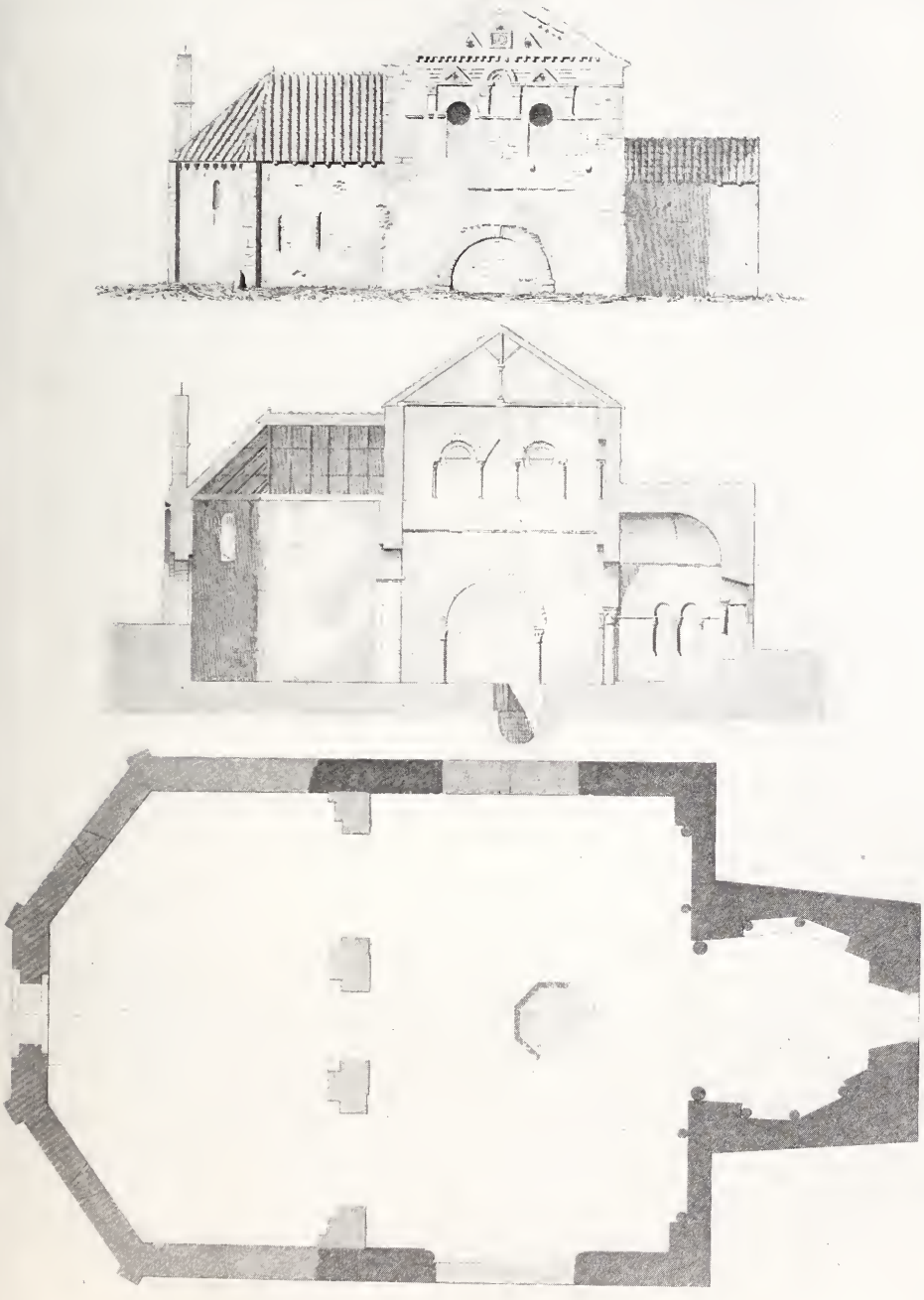
were later given parallel semicircular walls; that at the back was pentagonal within and rectangular in exterior. Researches to date, however, have not succeeded in making clear that this earliest portion of the edifice is truly Gallo-Roman, and therefore it is yet safe to conjecture that part or all of the construction was of the early Middle Ages erected upon the Gallo-Roman foundations. Again it may be assumed that the central square formed part of the initial structure, thus bringing it closely within the historical requirements of symmetry for a baptistery plan, and that the apsidal projections are later additions undertaken when the building ceased to serve its primary purpose; while the original name, including the word baptistery, persisted in succeeding centuries, misleading archaeologists, as all misnomers are bound to do, until the facts have been ascertained. Finally, it should be added that this baptistery was not in proximity to any church now known to have existed, which in itself would encourage the conclusion that the original structure was not a baptistery, despite the fact that for some centuries this was the sole place of baptism in Poitiers.



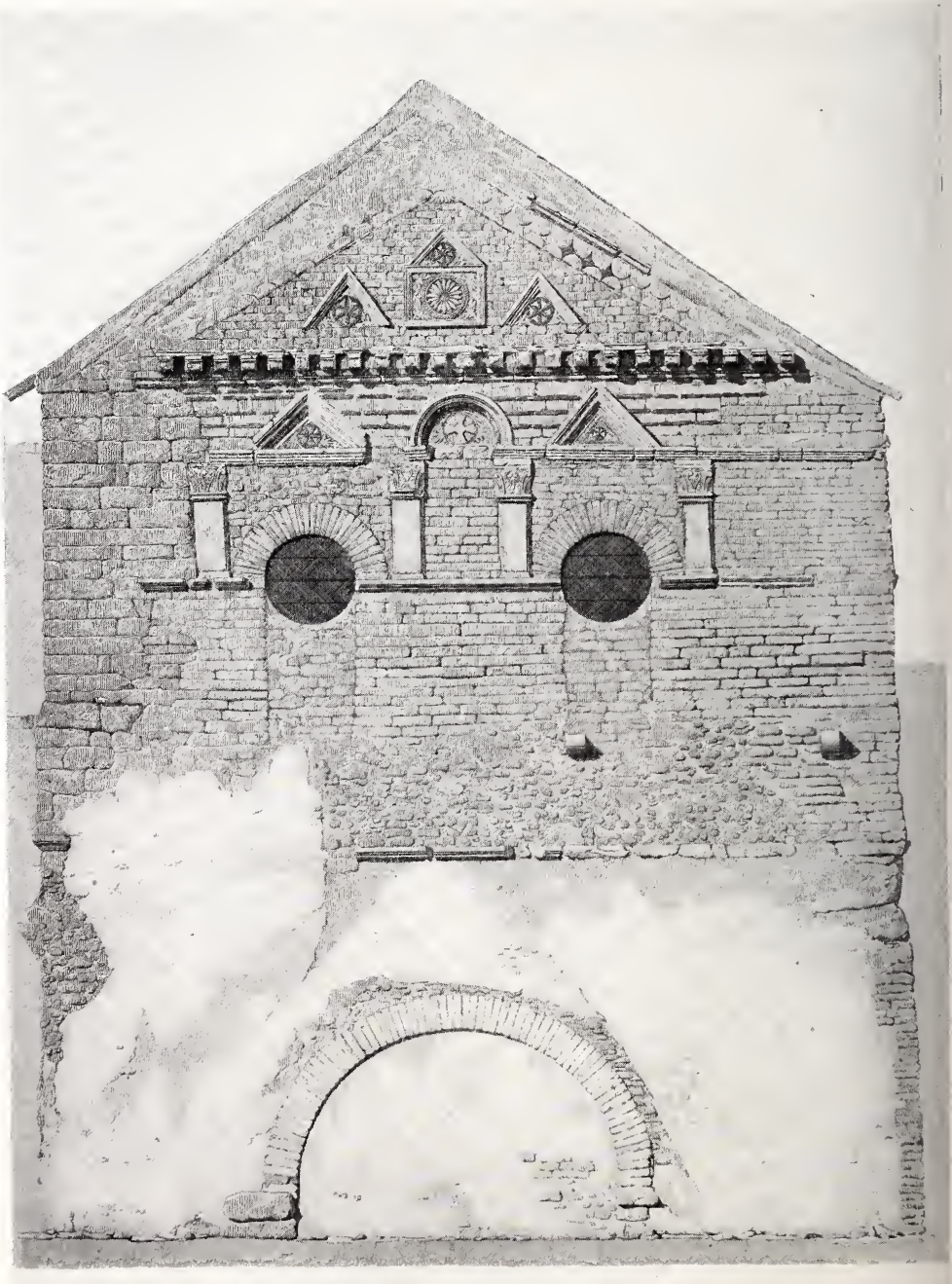
PLAN OF ST. JEAN, POITIERS. AFTER PÈRE DE LA CROIX.

We may therefore believe the building a pagan temple or tomb consecrated to Christian purposes, but not to those of a baptistery, unless the reservation is made that the use of the building for baptismal purposes was initially and admittedly a makeshift and that no plan alterations had been undertaken to bring it within the requirements of the recognized baptistery type.

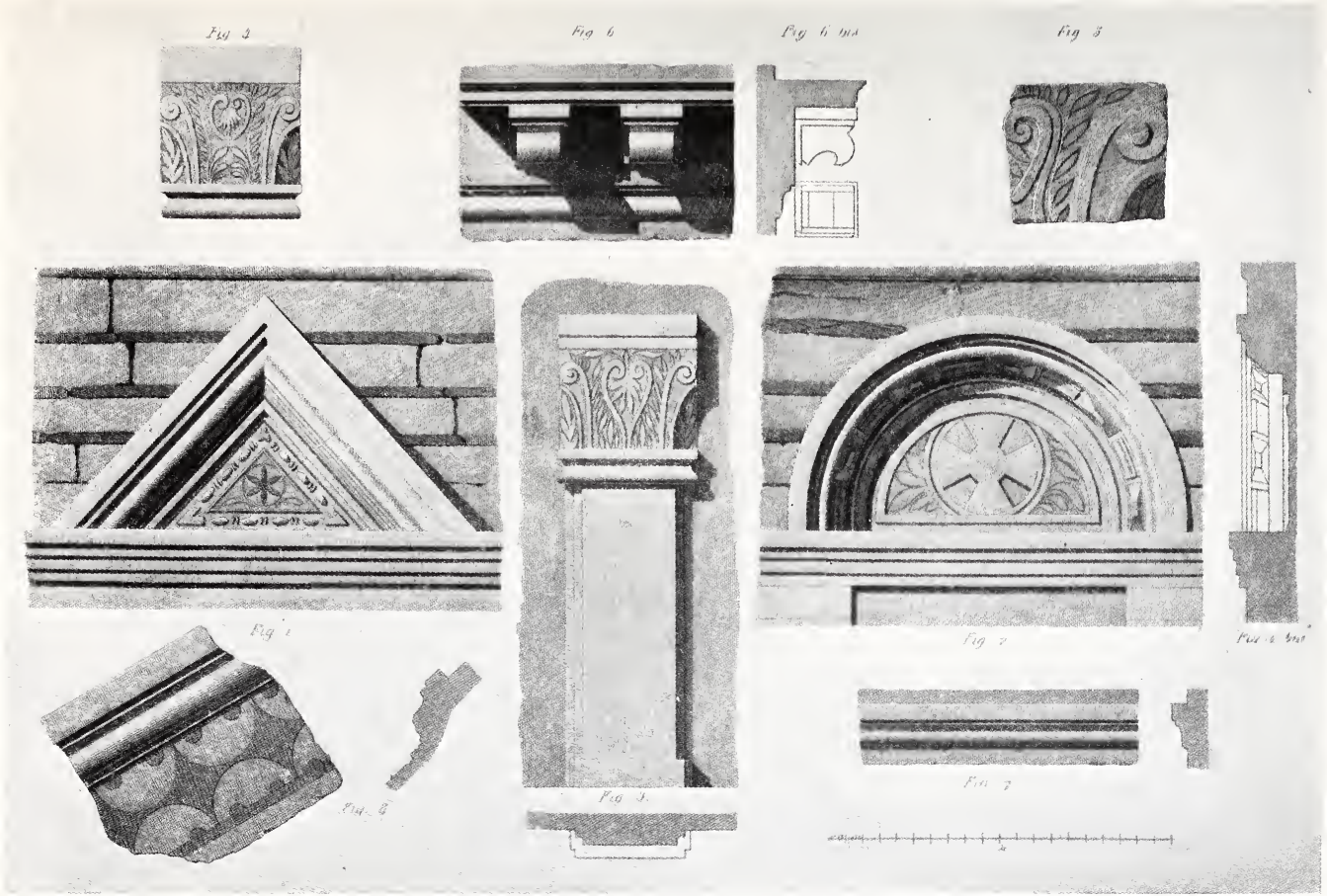
That the building may have been at



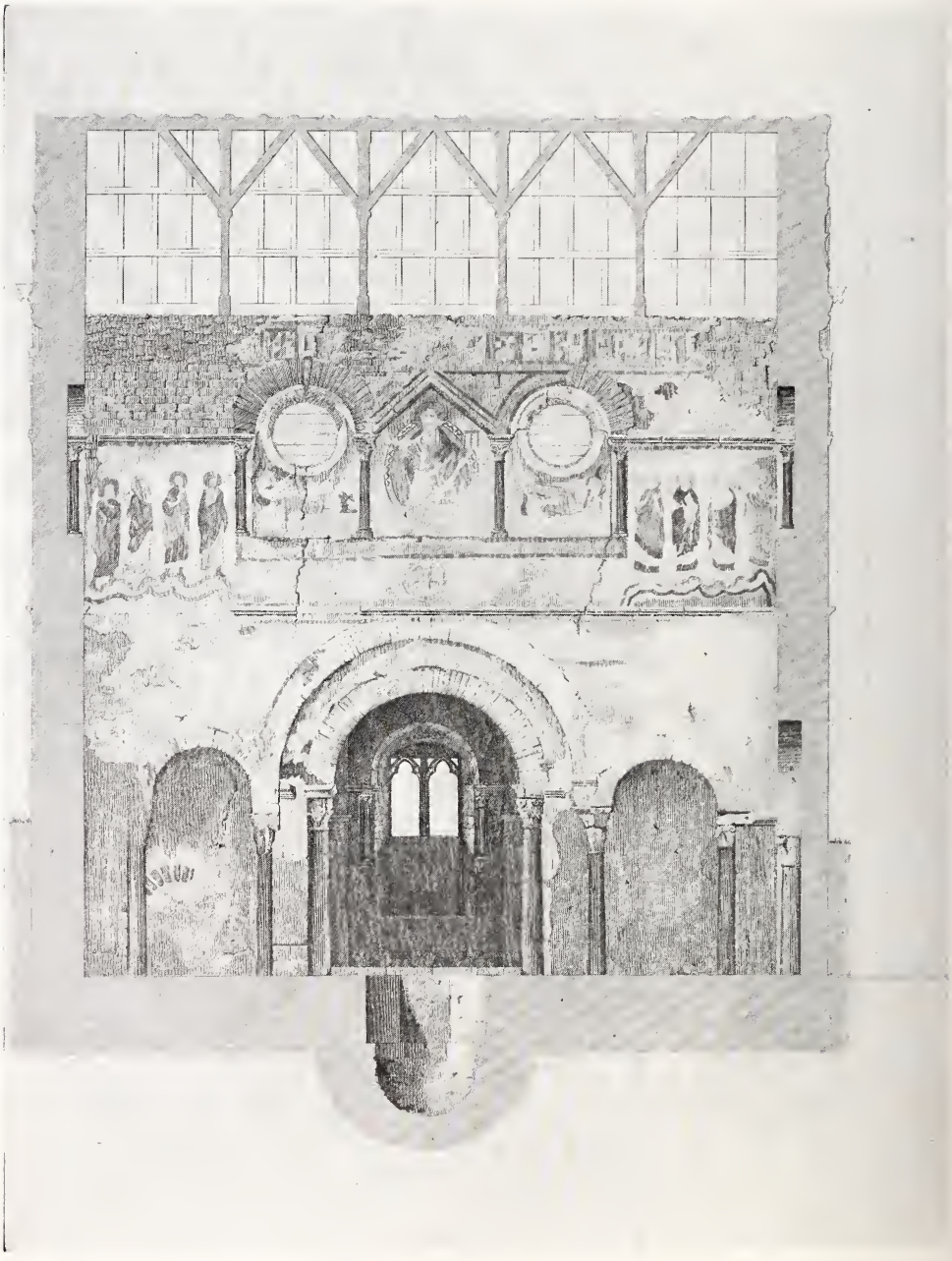
PLAN, SECTION AND ELEVATION, BAPTISTERY OF ST. JEAN, POITIERS. FROM GAILHABAUD, "MONUMENTS ANCIENS ET MODERNES."



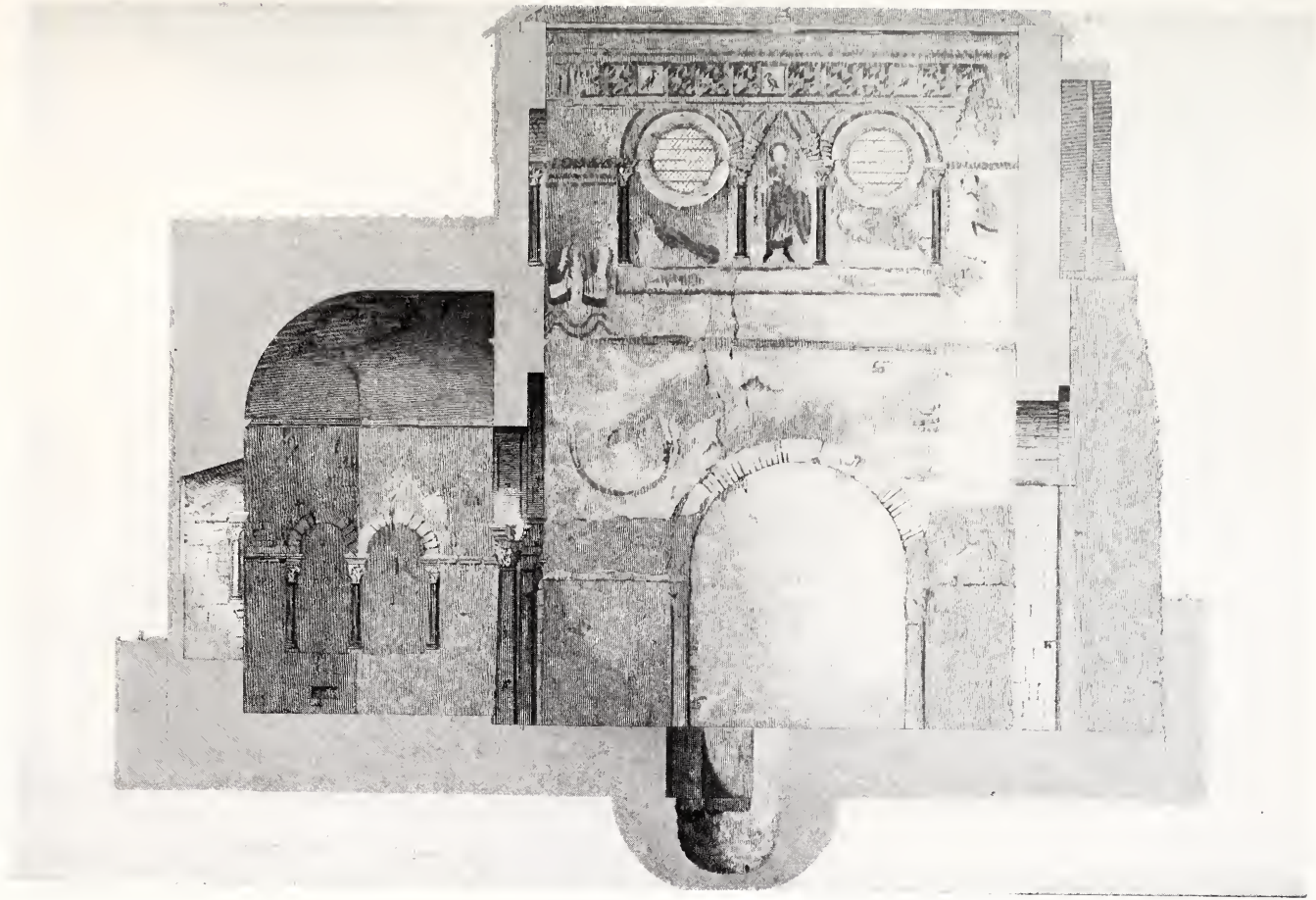
ELEVATION, BAPTISTERY OF ST. JEAN, POITIERS. FROM GAILHABAUD.



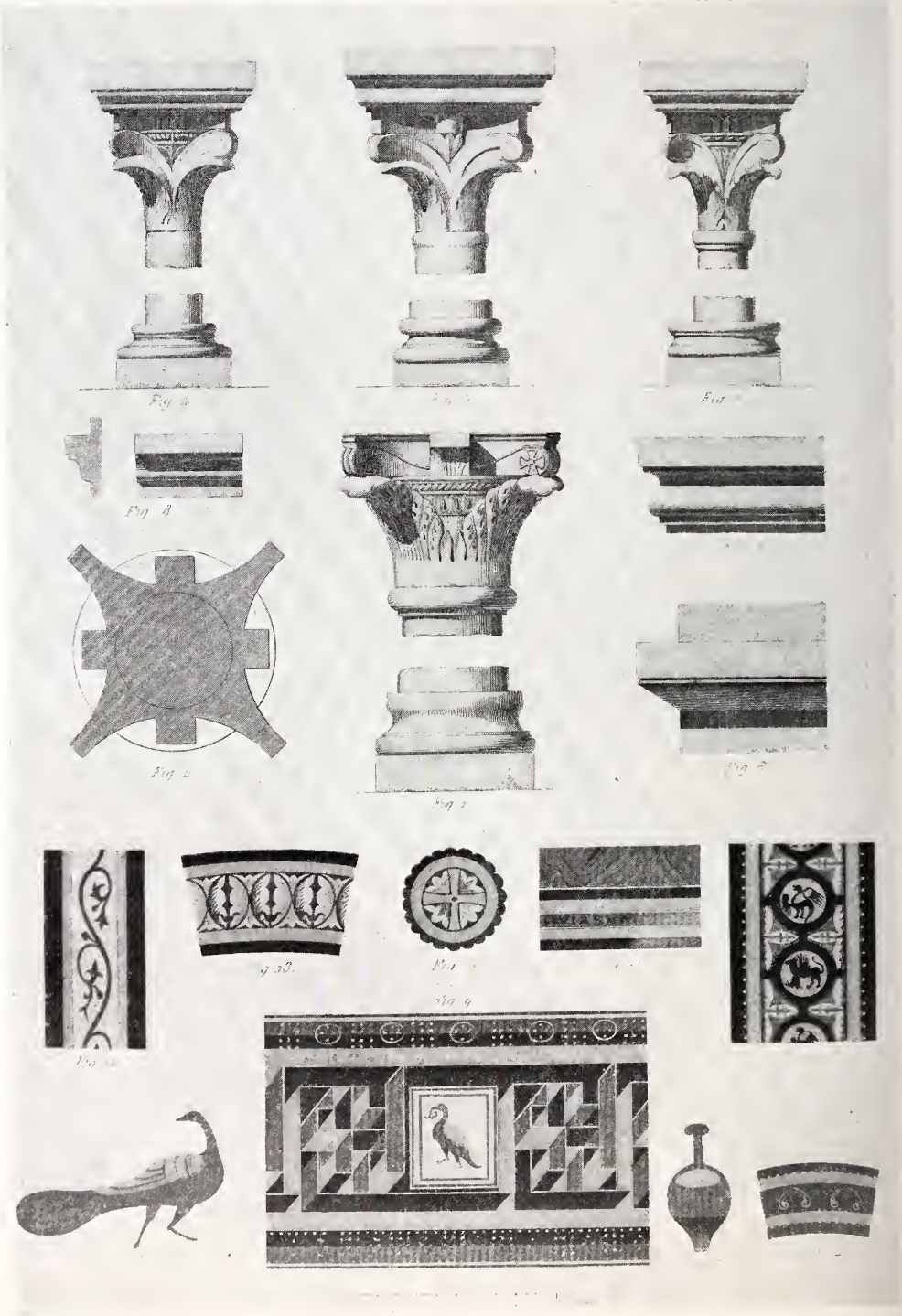
DETAILS OF ELEVATION, BAPTISTERY OF ST. JEAN, POITIERS. FROM GAILHABAUD.



TRANSVERSE SECTION, BAPTISTERY OF ST. JEAN, POITIERS. FROM GAILHABAUD.



LONGITUDINAL SECTION, BAPTISTERY OF ST. JEAN, POITIERS. FROM GAILHABAUD.



INTERIOR DETAILS, BAPTISTERY OF ST. JEAN, POITIERS. FROM GAILHABAUD.

one time a pagan tomb has been assumed on the basis of a classic memorial inscription of Claudia Varenilla, and it may be said that the assumption is yet tenable in the absence of proof to the contrary and in view of the above noted objections to its classification as a baptistery.

Latterly the French critic, Charles Marcel Reymond, has attempted to set the whole problem at rest by advancing the theory that the original building was a Roman house, dating possibly from the third century, and that the ruins of this house were removed or in part reconstructed for use as a tomb. Of the latter some carved details were used in the makeshift baptistery and are still visible. Due to this reapplication of old details as dictated by convenience alone and—as in the case of the sawed-off pilasters surmounted by original capitals carved for full height pilasters—resulting in a nondescript fragmentary decoration of no definite type, the building seems to lack architectural system, or, indeed, preconceived design. In this connection we might reasonably cite some Italian Romanesque churches showing a similar somewhat random use of sculpture and other details, as is seen in San Michele at Pavia, among others. The barbarous handling thus resulting is one of the most interesting manifestations of that time in early medieval art when architects, or rather master masons, were groping anxiously for light, studiously devising the fine system of ornament which was to become the full fledged Romanesque, precursor of Gothic.

M. Reymond further assumes that the tomb was a simple rectangle, and cites similar examples in the Roman Campagna, namely, the buildings now known as the Temple of Rediculus and the Chapel of St. Urban, both of square plan without accessories—and that when it was converted to baptistery uses the three apses were added. Perhaps nothing better than the exigencies of this particular site, of existing masonry, or possibly the willful originality of a particular cleric, may be held responsible for the resulting departure from type.

Later years witnessed a number of further changes, followed by a complete restoration, which leaves this building at present in excellent condition, but, of course, as a Romanesque monument. The Baptistery of Saint Jean at Poitiers is an excellent example of a splendid stamping ground for the archaeologist, and offers, furthermore, all possible reasons why an archaeologist should be the most painstaking, accurate and persistent of mortals.

Bibliographic note: For those whose interest may prompt them to pursue further the interesting history and controversy in regard to this building, the following bibliography is appended: De Caumont: Cours d'antiquités monumentales, Caen, 1841, v. 4 and 5; Dreux Duradier: Mémoire in Journal Historique de Verdun, v. lxviii, 1750; Fontenau: Mémoire in ditto, v. lxix, 1751; Foucart: Notice sur Poitiers et ses Monuments, in Mémoires de la Société des Antiquaires de l'Ouest, v. 7, Poitiers, 1840; Gailhabaud: Monuments anciens et modernes, v. 2, Paris, 1853; Gazette des Beaux-Arts, August, 1914, article by C. M. Reymond; Grille de Beuzelin: Mémoire sur les antiquités de Poitiers, in Mémoires de la Société des Antiquaires de France, 1837; Jackson: Byzantine and Romanesque Architecture, Chicago, 1914, v. 2; Lebeuf: Lettre, in Journal de Verdun, v. lxix, 1751; Lenoir et Vaudoyer: Etudes de l'architecture en France, magazin pittoresque, 1839; Lenoir: Atlas des Arts au Moyen Age, 1803; Mangon-Delalande: Dissertation sur le tombeau romain de Varenilla, in Mémoires de la Société des Antiquaires de l'Ouest, v. 1, Poitiers, 1835; Martenne: Voyage littéraire de deux Bénédictins de la Congregation de Saint Maur, 1717-1724; Merimée: Notes d'un Voyage dans l'Ouest de la France, Paris, 1836; Millin: Voyage dans les Départements du Midi de la France, Paris, 1811; Père de la Croix, in Guides of the Congrès de la Société francaise archéologique, 1903 and 1913; Siauve: Mémoire sur les Antiquités de Poitou, Paris, 1804.

RICHARD FRANZ BACH.

The Architectural League Exhibition.

The annual exhibition of the Architectural League of New York is one of the important events on the architectural calendar. It is a study in itself, this method of advertising architecture to a public surfeited with distractions; and the officers of the League through the experience of a long course of years have developed rare ability in the special technique of exhibitions. Considering the war's check on building operations, which have centered on country houses in the last two years, the material in the strictly architectural section was so skillfully handled that its thinness was hardly apparent to the casual visitor. The individual exhibits have been extensively published, and specific mention of them is not necessary. What is worth while is to point out a few of the main aspects of the exhibition which should prove of value in other organized efforts of the profession.

The presentation and arrangement of the

exhibits was a distinct achievement. Artistic things were displayed not only artistically, but architecturally. Continuing an innovation of the last two years, the vistas through the rooms were made use of; and charming effects were obtained in the centre spaces, which are usually left bare. Here little garden effects were laid out, with an occasional fountain or pool; and much appreciated benches were conveniently distributed around the plants, as in a garden. The color contributed greatly in this effect. Mr. Burch Burdette Long, who always does the hanging, is responsible for this. For a background, instead of an even, flat surface, he distributed cloths of slightly varying shades, yellows, or tawny colors, hung in loose folds to add character. Then against them he spotted the exhibits, mingling skillfully those that were architectural with those that were not; and the colors blended at a distance like the pattern of a fine rug or piece of tapestry. Another great improvement was in the quality of the miscellaneous assortment of designs, drawings and decorations that custom includes in architectural shows. Formerly it seemed as if the League was the victim of all kinds of esthetic experiments having only the most distant relation to architecture, the oddest assortment of exotic decorations, ridiculous in subject, wild in conception and execution, startling in color, often setting one's teeth on edge. This year, however, there were signs that the tempestuous youths identified with these experiments are approaching maturity. It would not do to assert they are, all of them, entirely beyond the nonage. What they have to say is often doubtful in content and importance, but this youthful school is increasing in ability to handle brilliant color imaginatively and decoratively. The intense deep indigos, rich strong reds and pure tube-color yellow-greens boldly combined were inspiring. The organizers of the League are to be congratulated on their foresight in patiently encouraging the designers of this school through their years of experience and growth.

Another good feature was the opportunity given to craftsmen to exhibit. It is entirely right to give support to that small group of manufacturers who have come up in the last few years and who produce in the true spirit of craftsmanship for which architects are always yearning. Without the co-operation of such men, architecture could never have made the remarkable progress it has made recently. Their struggle to maintain the highest standards must be a hard one; and without suspicion of commercializing, architects can lend their backing to these makers of stained glass and workers in wood, iron or bronze who exhibited at the League. Indeed, one would like to see this feature of architectural exhibitions extended, admission being awarded as a prize to manufacturers, after the most severe and impartial consideration.

The exhibit of materials in the basement was another innovation which might be developed. In the interests of sound construction and proper use of materials and mechanical devices, it might not be amiss to have such exhibits regulated by rigid selection, giving them a tacit approval before the public.

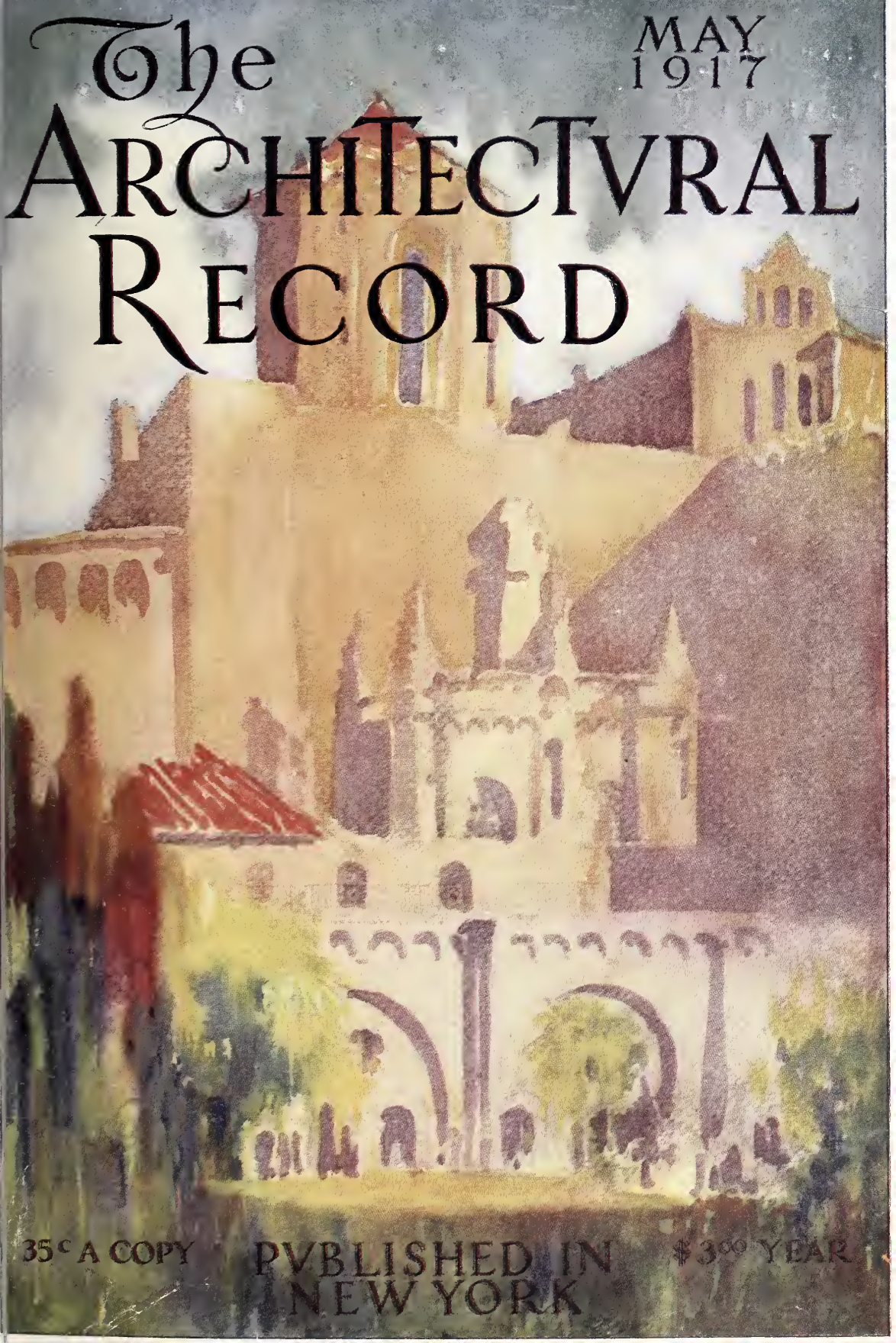
In the architectural field, the increased exhibits of models was most welcome. How superior they are to the traditional perspectives, those old brands which we have come to know only too well, and to hate so cordially. A model is a far sounder and more instructive method, for both client and architect, of visualizing a scheme than is a perspective drawing. Instead of one point of view, it shows all points, and shows scale and color even more dependably. The models in the League were wonderfully executed, even erring on the side of too much realism of trees, coloring of flower beds, rocks and shrubbery. It is not wise to encourage clients to expect too much in the way of explanation and demonstration.

Continued prosperity to the League. It is an achievement for a professional exhibit to attract such a throng on a Saturday afternoon in New York as that which appeared on the last day of the exhibition.

JOHN TAYLOR BOYD, JR.

The Architectural Record

MAY
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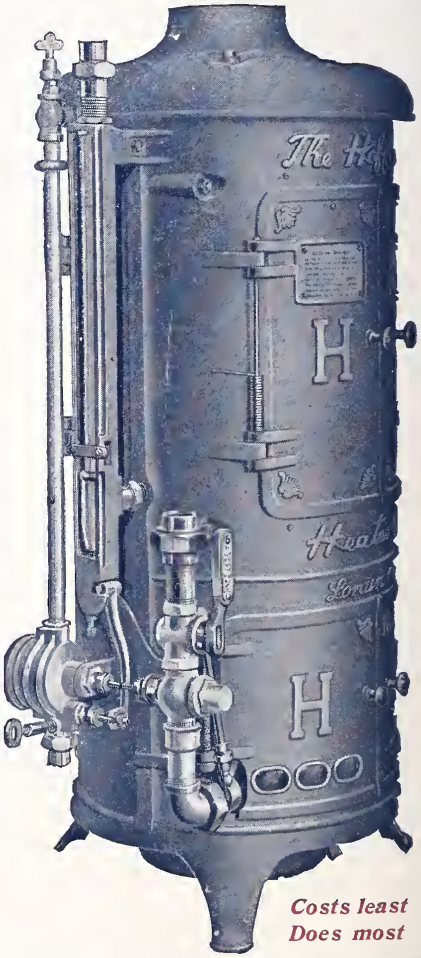
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DETAIL OF SIDE ELEVATION—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.

THE ARCHITECTVRAL RECORD

VOLVME XLI NVMBER V

MAY, 1917

RESIDENCE OF WILLIAM McNAIR, ESQ NEW YORK

H. Van Buren Magonigle, Architect

By JOHN TAYLOR BOYD, JR.

THERE are few tests of an architect's skill more exacting than the design of a large city house. Even in the country, where there is no lack of space, house architecture is a matter of arrangement in detail of complicated factors. But in the city, to the difficulties of the problem must be added cramped space, restrictions of light and air, and the requirements of city ordinances, which hamper the planning of the living quarters of the house and of the service and mechanical equipment as well.

In the particular case which is treated here, the residence of Mr. William McNair, Mr. Magonigle has contrived an ingenious mechanism which has worked out most effectively.

In the general arrangement of the plan, the most striking feature is the position of the living quarters of the family, on the top floor, which was chosen in order to obtain the greatest possible amount of light and air and to take advantage of the view. This is a departure from the more usual scheme, where the living quarters are on the third and fourth floors, adjacent to the entrance and entertainment portion of the house—what might be called the semi-public part, on the first and second floors. The owner felt that, in making the change, some inconveniences would result, but hoped, nevertheless, that the advantages would be sufficient to offset them. However, now that the experiment has been thoroughly tried out, his opinion is that the drawbacks seem negligible and that the dispositions made to carry out the scheme fulfill all the demands that were expected

of them. The greater use of the elevator is offset by the elimination of stair climbing, and in fact, since an elevator is found in most city houses where the living apartments are on the third and fourth floors, no real addition to the usual requirements is here involved. Nor have many other features been found necessary to supplement this novel arrangement. There has been provided an extra dumbwaiter serving the top floors, in addition to the one up to the third floor for the kitchen and service, while two trunk rooms, one on the fourth floor, opposite the elevator, for the convenience of the family, and another directly below it, for guests, have proved invaluable aids in the working of the plan. But one of the chief advantages that results from placing the family apartments on the top floors lies in the situation of the maids' rooms, most of which are located on the third floor, midway in the structure. There are also rooms for the ladies' maids, those in the service of the family or in the service of guests, on the upper floors adjacent to the chambers of those they serve. Americans seem always to be struggling with "problems" of one sort or other, and the "servant problem" demands much of the architect. In the country no space or convenience is spared to hold the maids and butlers at their tasks, to prevent their being bored; but in the city servants are satisfied to put up with quarters usually either in the basement or along narrow, obscure light wells. One shudders to picture the chaos that would reign in cities should it suddenly become fashionable among servants to live in the country; their quarters would pall on them, and most of our finest city dwellings would suddenly be found to be untenantable. Against this contingency Mr. McNair seems well protected, for the rooms of his servants are unusually comfortable, well-lighted and accessible by service stairs, thus eliminating the frequent passing and repassing through the living or entertainment portions of the house, which would be necessary were they located on the top floor of the house.

The top floor has a living room across the front of the house, facing south; next to it Mrs. McNair's suite fronts on the west, and to the rear is Mr. McNair's apartment, consisting of a bedroom, a bath and a study, well lighted by a large bay window. The bathrooms are finished in a wainscot of large slabs of Argentine glass, about seven feet high above a floor of small hexagonal tiling, the larger bath being decorated with a barrel vaulted ceiling designed in narrow divisions of strips and small figured panels. On this floor all the principal rooms have outside light and, in addition, the smaller, inner cabinets and corridors are illuminated through skylights. The resulting effect, enhanced as it is by the light wall decorations of strip panels in cream or ivory tones, seems almost as sunny and cheerful as a summer cottage. Contrasting with the light colors of the other rooms is the living room, whose walls are lined with dark oak paneling up to the ceiling, with bookcases under the end windows and between the leaded glass panes of the front windows.

Almost as well lighted as the top floor, the floor below contains, across the front, a suite for a member of the family, and to the rear, apartments for guests, including the above-mentioned provisions for ladies' maids. These two top floors are rare, indeed, in their aspect of cheerfulness, homelike comfort and intimacy, which is due as much as anything to the isolation from the more public parts of the house near the ground floors. They are far more desirable than they would be if situated lower down, where they would be darker and might perhaps have a certain air of oppressiveness due to the lessened light and to the necessity of passing through large, richly furnished rooms, which often seem heavy and lonely unless made brilliant with a crowd of people.

On the third floor, besides the servants' rooms along the east wall, are a number of guests' rooms providing various arrangements of isolation or communication as convenience may demand.

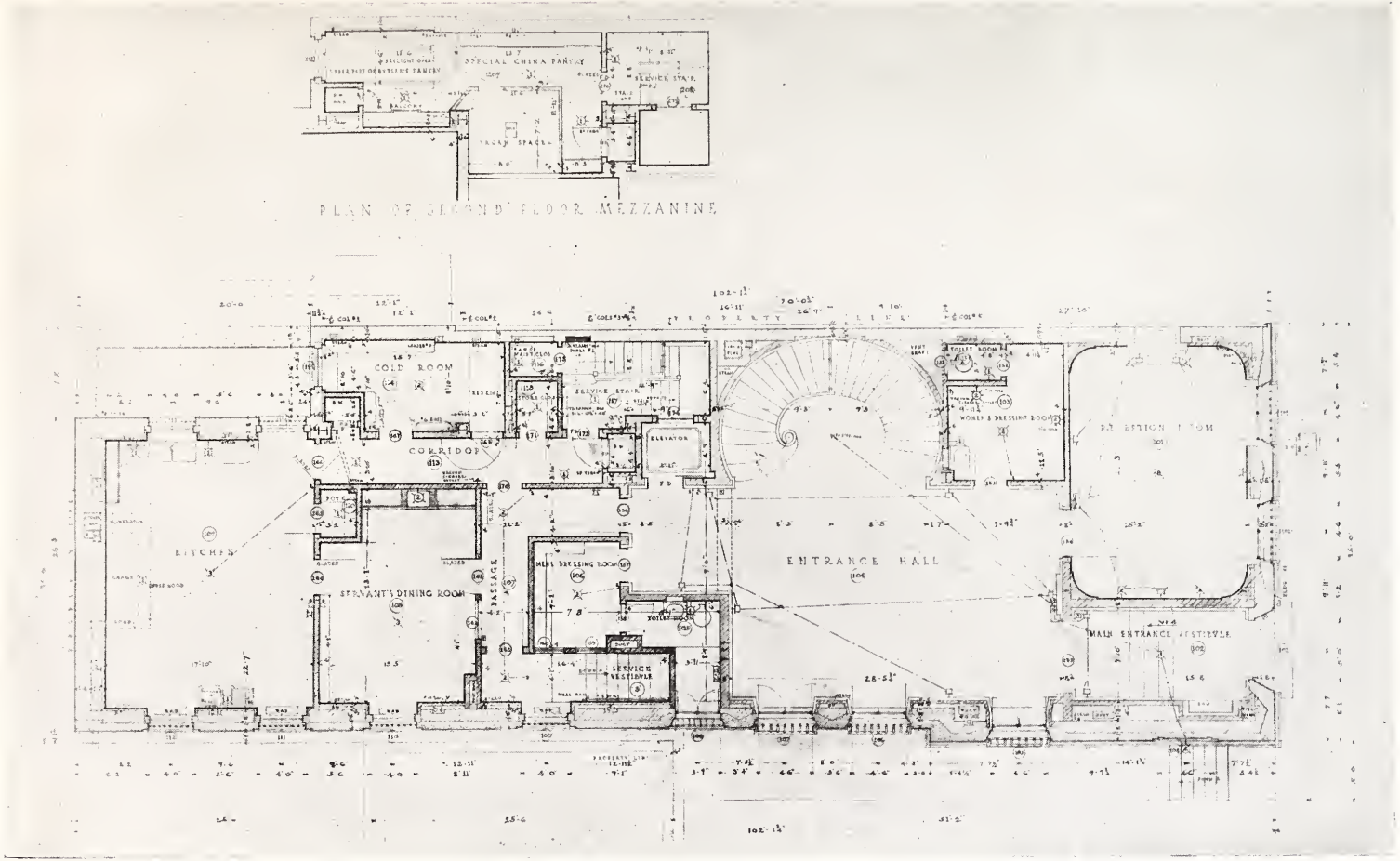
I have reversed the usual order of description in taking up the living quarters of the house first, since their situation on the top floor is the most significant feature of the plan. The main entrance



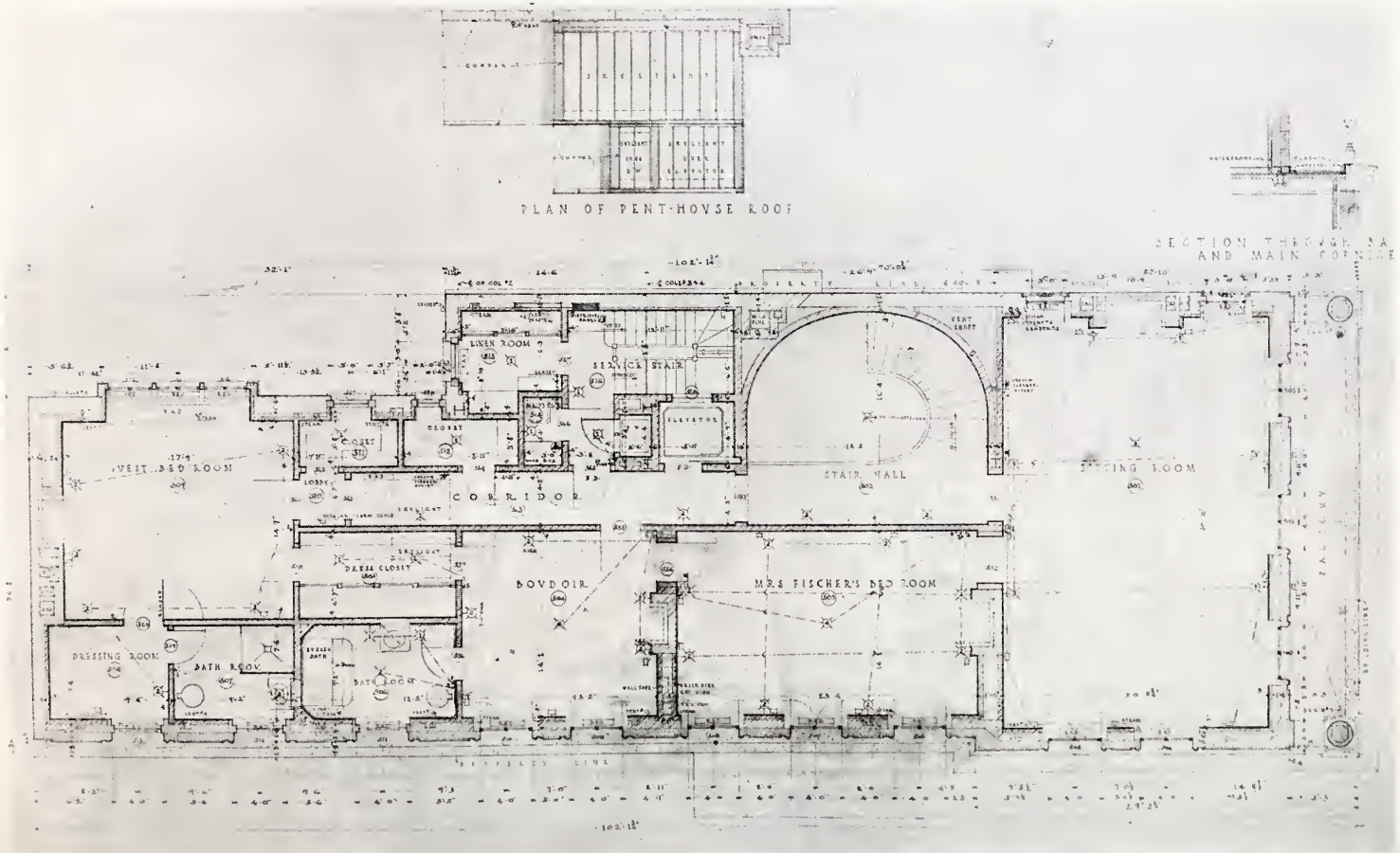
MAIN ENTRANCE DOORWAY—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.



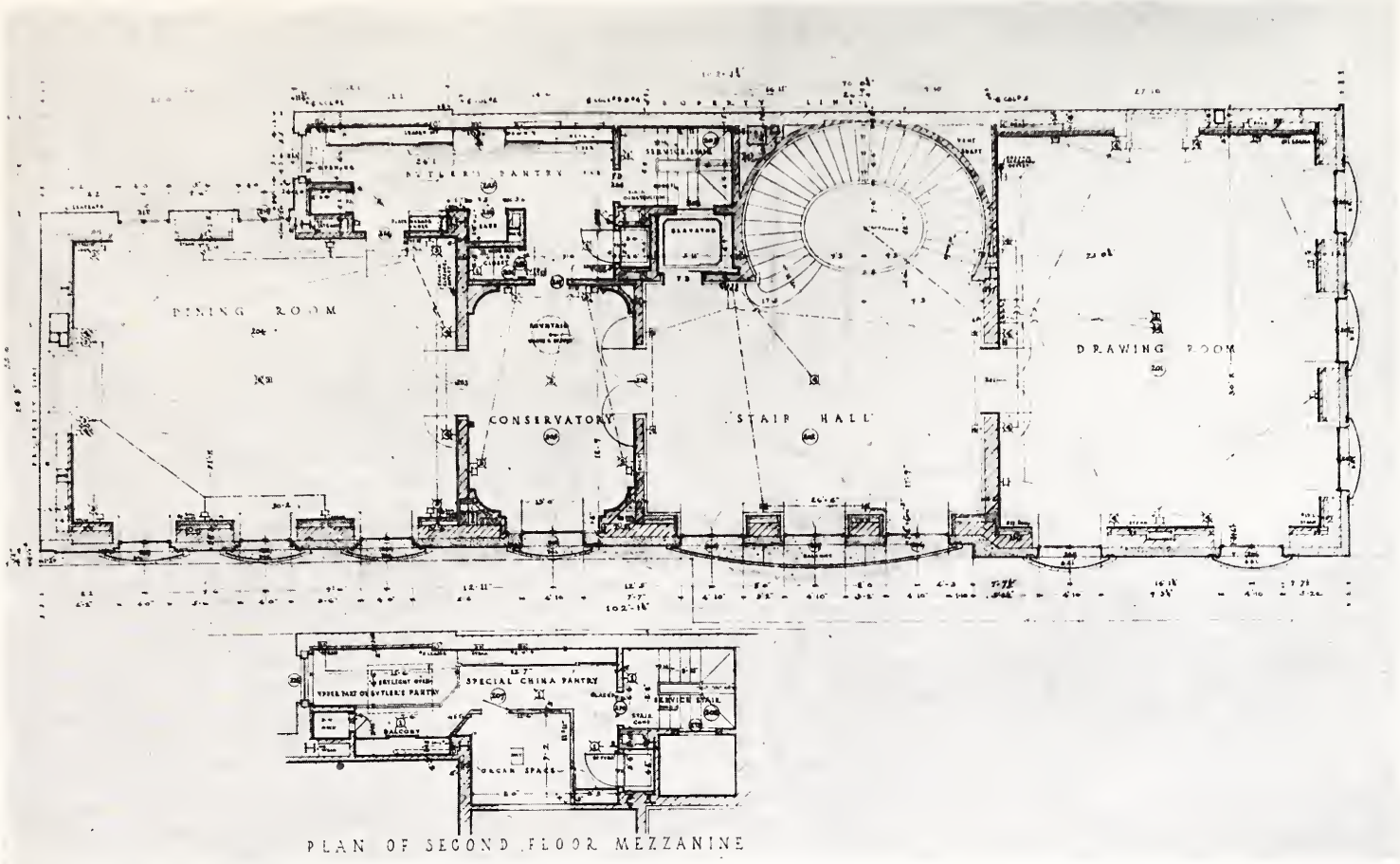
RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.



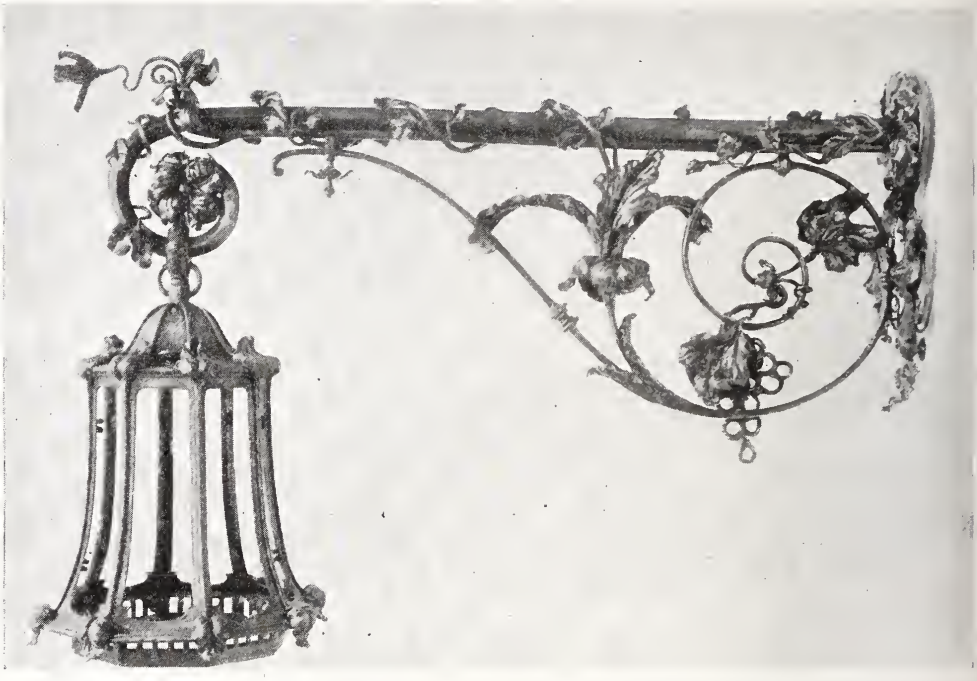
PLAN OF FIRST FLOOR—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.



PLAN OF FIFTH (TOP) FLOOR—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.



PLAN OF SECOND FLOOR—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.



DETAIL OF LAMP BRACKET, WEST ELEVATION—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK.
H. Van Buren Magonigle, Architect.

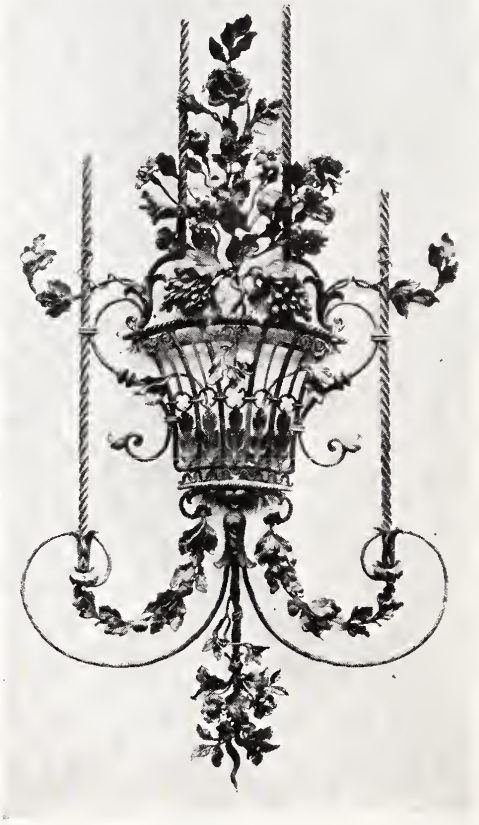
is through an effective vestibule in simple limestone delicately paneled and richly furnished by the Belgian black-and-gold marble architrave of the front door and by the exquisite grilles of the double doors flanked with standard lamps of black iron touched with gilding, excellent examples of the really extraordinary ironwork throughout the structure. This cheerful entrance is a relief from the formal frigidity of most city entrances. Why are the entrance vestibules of the modern city house so uninteresting and so repelling? Is it to provide a suitable architectural setting for the imported butler? Whatever the reason, our city houses contain an increasing number of these sepulchral vestibules or basement entrances, whose only touch of warmth is provided by an occasional tapestry or baytree or medieval chest, furnished by some kindly decorator. Some of our most distinguished architects follow this blind custom, which they would scorn to adopt in a country house. One has only to think of the countless charming entrances in the country to realize the truth of this point. Perhaps one might allege that the difference is due to the greater formality of city life; but this reason scarcely holds, since some country houses are formal and, besides, the approach to a country place consists of driveways, trees and entrance courts, of which a bare vestibule is only a detail with but slight effect on the cheerful impression made by the other features. In the city, the entrance on the street is the sole link between the outside world and the home, and there is no reason for its repellent character. Perhaps thirty years from now these city entrances will excite the mirth of people, much as certain features of houses built thirty years ago amuse us today.

From the vestibule of Mr. McNair's house one enters a spacious hall, which forms a stair hall for the great winding stair that rises to the top floor. Its decoration is simple—a double motive of sunk and raised panels in ivory tones, enriched by the furnishings and by the beautiful ironwork that first engages attention as



DETAIL OF FIRST STORY WINDOW GRILLE—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.

a characteristic of the exterior. It should be stated here that the very interesting decoration of the entrance, the first and second story halls and the great stairs was executed from designs by Mr. Magonigle. Off the entrance hall open the usual dressing arrangements, besides a small formal reception room done in light green. On the second floor is the more splendid portion of the house, admirably adapted for entertaining. Decidedly French in character, though not a "period" room, the reception room across the front is decorated with large wall paintings set in panels. Some of the furniture and ironwork in these rooms was designed by the owner. The hall of this second story is a formal room of cream-colored panels, of gilded doors and a charming little gilded ironwork grille opening into the breakfast room. Its chief interest lies in the teakwood floor, of an unusual rich reddish color, laid in eleven-inch widths, furnished with a six-inch border of Belgian black-and-gold marble along the room base, which is of the same marble.



DETAIL OF VESTIBULE GRILLE—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK.
H. Van Buren Magonigle, Architect.

As a sort of anteroom to the dining room is the charming breakfast room, with light yellow gray walls decorated by thin strips grained to resemble dark green marble. At one end is a little fountain of gray marble and above it on the wall a decoration of gilded organ pipes. The dining room is a formal room divided into bays of pilasters and arches with old paintings in the spaces between. The kitchen and service arrangements have been worked out admirably. The kitchen is on the main floor, well lighted and ventilated, and the service entrance is so arranged—a technical detail of no small importance—that the tradesmen are brought to the kitchen, where, standing near the range, the cook and helpers may watch the entrance of all persons coming to the house. On the second floor is a large pantry with mezzanine floor serving into the dining and breakfast rooms. The basement contains quarters for the men servants in the rear—the only part of the whole house that is not well lighted—and the rest of the space is taken up by the laundry and the mechanical equipment.

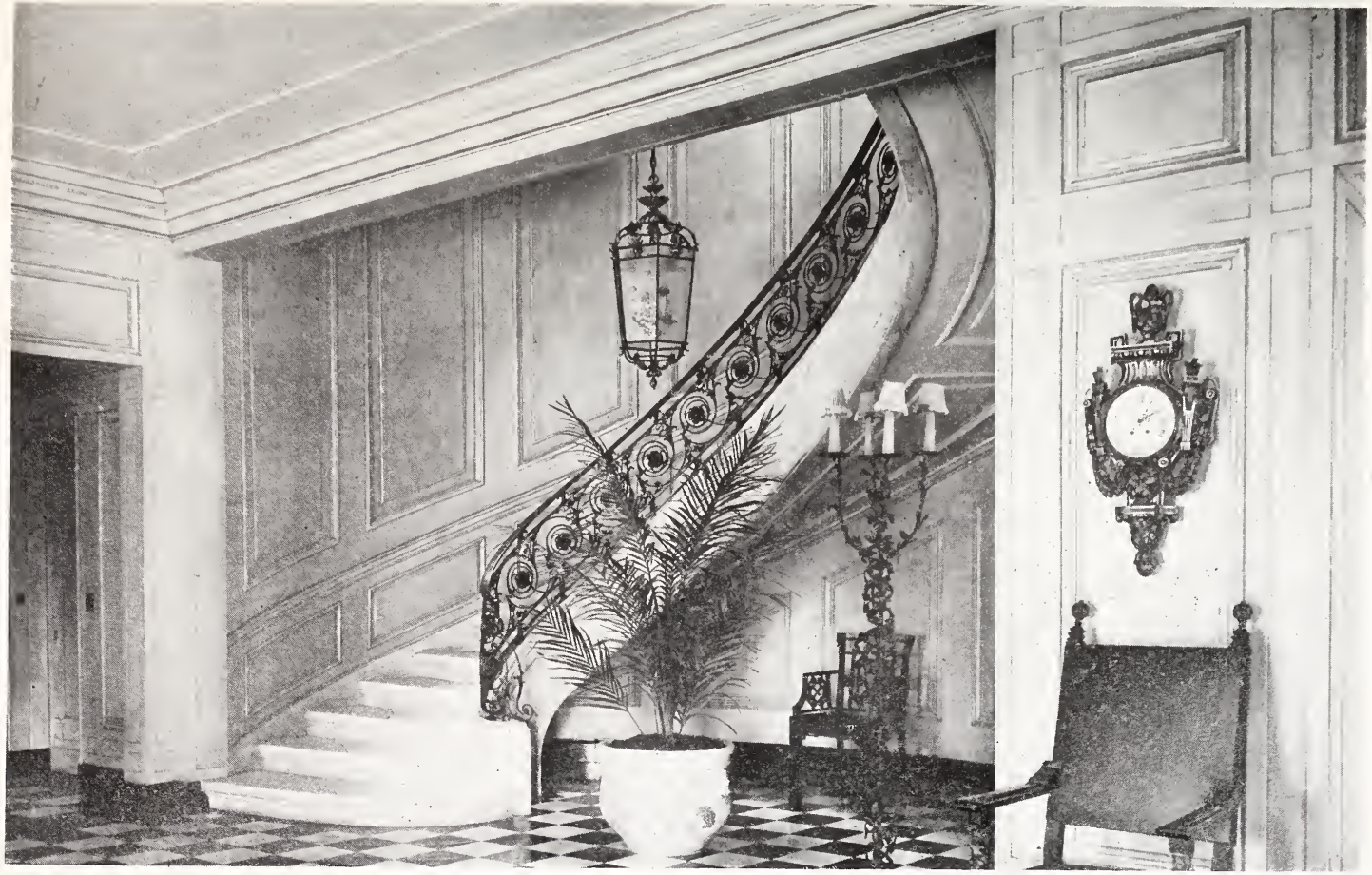
The mechanical features of the house have not been exaggerated, as is sometimes done in large houses. The heating system is indirect for the main rooms of the first and second floors; elsewhere enclosed radiators are used. The main rooms have thermostat control and the service thermograde. To prevent a down-draught of cold air in the ventilator, large heating coils were placed in the space above the skylight over the top of the main stairway; there can be no down-draught of cold air to chill the lower part of the house. This principle has been followed in all the smaller shafts, including the elevator and dumbwaiter shafts.



VESTIBULE GRILLES—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.



MAIN STAIR HALL AT SECOND STORY—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK.
H. VAN BUREN MAGONIGLE, ARCHITECT.



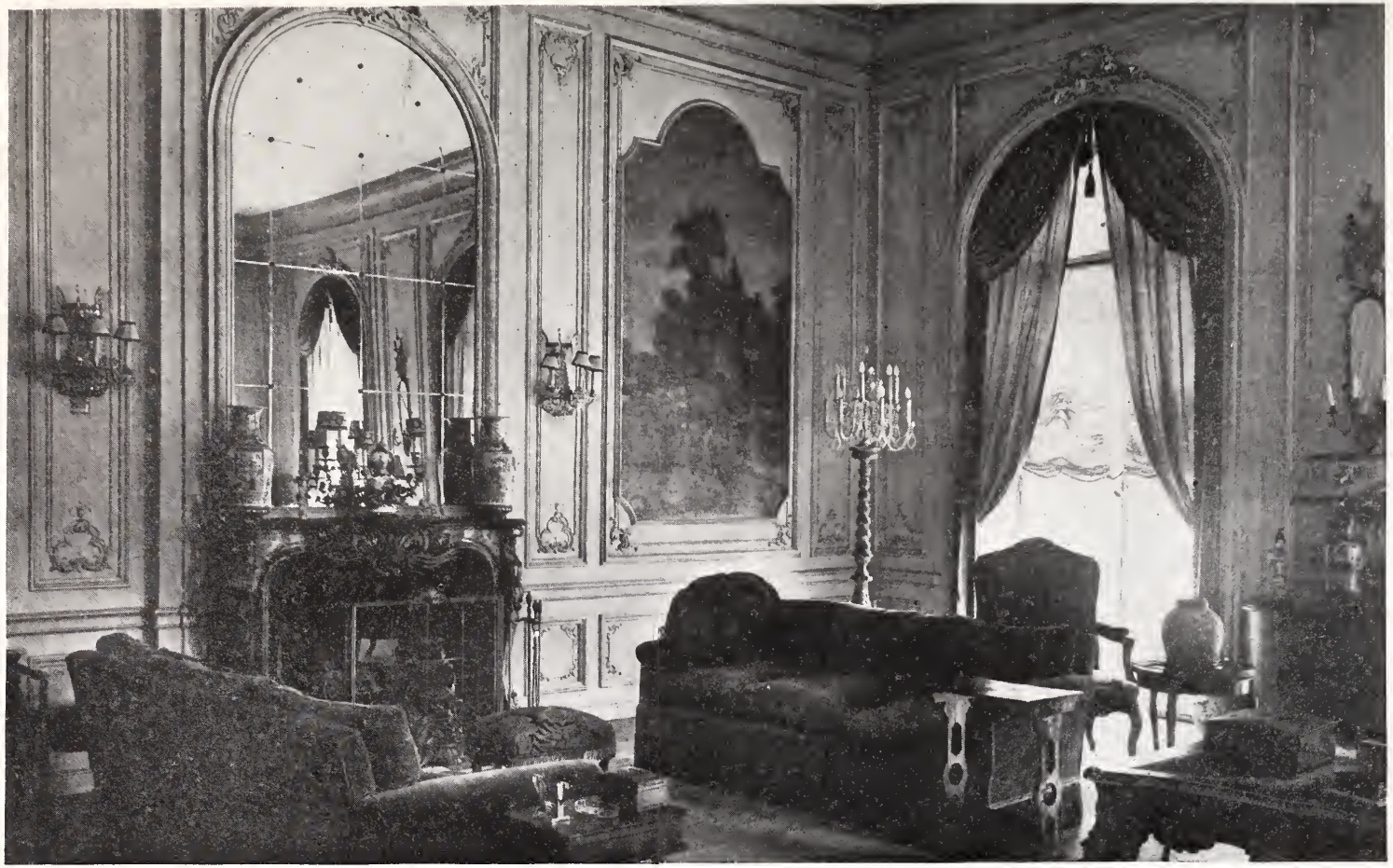
MAIN STAIR AT ENTRANCE HALL—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.



LIVING ROOM, ON TOP FLOOR—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK.
H. Van Buren Magonigle, Architect.



DINING ROOM—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK.
H. Van Buren Magonigle, Architect.



RECEPTION ROOM, ON SECOND FLOOR—RESIDENCE OF WILLIAM McNAIR, ESQ., NEW YORK. H. VAN BUREN MAGONIGLE, ARCHITECT.

Continuing the topsy-turvy scheme of description, I have left the exterior to the last. No part of the design is more successful than this. It shows all the remarkable handling of proportion, the fine taste and the highest standards in draughtsmanship and in modeling of details that Mr. Magonigle has always insisted upon in his work. The more one studies it, the more interest becomes apparent beneath the veil of its simple classic proportions. Restraint and precision, absolute control of a variety of elements, perfect contrast of broad wall surfaces of Chassignelle stone with the window openings—these features are only the foundation of the picture. Many able architects would have stopped there, would have been content with achieving "correctness," "restraint," "restfulness," all carried out in the highest professional skill, no doubt, yet at the same time leaving an impression of insipidity and coldness. To say that a work is "scholarly" often hopelessly condemns it. In the McNair house Mr. Magonigle's insight has carried him farther, to artistic success. There is an element of delicate charm in the elevation that results from the domestic scale and from the unusual "life" and freshness of details and ornament, and reaches a climax in the sparkling contrasts of spots and masses of the ironwork. One is struck by the free treatment of the window jambs and enframements, by their perfect ornamentation. In over-striving for "simplicity" too many windows in contemporary architecture are really nothing but crude holes cut in the walls, and since they often occur side by side with rich curving ornament they impart a touch of subtle hardness to many exteriors. A case in point is the large first floor windows in the offices of J. P. Morgan & Co., which are too different in character from the richly ornamented, luxurious cornice along the top of the building above. In this latest work of his, Mr. Magonigle has not overdone the matter, which brings to mind another extreme, that of overworking one's draughtsmanship by paneling and decorating every tiny bit of plane surface on the walls. This other fault leads to much of the tricky detail where contrast is lost and where the result is a soft, over-dainty, effeminate architecture. Incidentally, the break in the side elevation of Mr. McNair's house was made necessary by deference to a neighbor's wishes rather than by any requirements of the design.

As I have said above, artistically the great merit, the climax of the whole house, is the ironwork—lamps, grilles, balconies, stair rails. It would be impossible to exaggerate either the perfection of the design or of its execution. It embodies all the things that can be done with iron, all the processes, all the devices and all the technical artifices of the ironworkers' trade. Yet never does the design degenerate into exhibitions of virtuosity. One will find here the turnings, the castings, and the finishes that are noted in the old Spanish work, with some others that seem new or reminiscent of German or Italian models, astonishing in their vitality of springy lines and in their luxurious leaf ornament. The design is neither archeological, nor is it over-finished or too mechanical, for much of the texture is rather rough. The handrail of the great stairway is a sort of Italian treatment of a French motive, while the entrance door grilles have the exquisite character of lace as seen from inside looking out against the reflected light of the vestibule. As a further variation, the grilles of the first floor windows show a distinctly Spanish treatment. All this remarkable metal work was designed and drawn out, every line of it, by Mr. Magonigle himself, and it is a pleasure to realize that such work may be conceived and carried out in the United States at the present time.

A TOWN PLAN FOR DUBLIN, IRELAND

BY F. A. CUSHING SMITH

UNDER the auspices of the Civics Institute of Ireland there was projected during the year 1914 a Civic Exhibition to be held in the Linenhall Buildings in Dublin, Ireland. The principal object of this exhibit was to show "Irish life as it is, to illustrate simply, clearly and vividly its specific and recent advances and achievements, and point the way toward the further solution of some of the problems of today, and of the more immediate future." What the last phrase portended only the events following the fall of 1914 can show. To impress upon the citizens and the visitors to the Civic Exhibition the details of the existing conditions in the city of Dublin—conditions with which a chance traveler and with which even residents of the city were scarcely acquainted—and to show by contrast what other communities had done to improve such conditions, it was proposed to include in this exhibit the following sections:

First, one on urban life; an exhibition of town planning in its manifold phases, city streets, public buildings and school houses, parks, parkways and playgrounds, water fronts for commerce and recreation, means of transport and transit, housing, garden suburbs, etc.

Second, one to be devoted to rural life, showing village planning, village halls, treatment for roads, playgrounds, cottages, gardens, etc.

Public health and child welfare also received their just attention, and it was decided that a civic survey of the city of Dublin should eventually be prepared, including housing conditions (upon which a report had been recently completed), railways, tramways, docks, main arteries of travel with relation to industrial centres, and notes on present traffic and congestion, property values, density of population, vital statistics, zones or districts for industrial shopping, residential and recreational quarters.

Needless to say, unusual and unforeseen events did not permit the successful completion and presentation of this magnificent exhibit, and while much material of an interesting nature was collected and hung, it did not represent the best that the countries of the world had to offer.

Prior to the final preparations for this exhibit His Excellency the Earl of Aberdeen, Lord Lieutenant of Ireland, very generously offered a prize for the best and most comprehensive plan for the future development of the city of Dublin. Housing conditions within the city limits had long been a matter of deep concern to those most interested in the future development, not alone of Dublin, but of the entire country of Ireland. A Housing Report presented to Parliament by command of His Majesty, prepared by the Departmental Committee appointed by the Local Government Board of Ireland to inquire into the housing conditions of the working classes of the city of Dublin, had disclosed almost unspeakable and unheard of conditions. Thousands of families were found to be living amidst surroundings scarce fit for human habitation and thousands more were crowded into unsanitary, poorly lighted, poorly ventilated rooms, often several families occupying the same room. Exorbitant rents were exacted, and with few exceptions the tenements were in an extraordinary state of disrepair.

It will thus be seen that the competition for improving and beautifying the city embodied, first of all, the cleansing and disinfecting of this section in the very vitals of the city. No amount of expenditure which did not radically change this housing condition could be long lived. It was estimated in this report, above referred to, that housing facilities had to be provided for at least 14,000 families—about 60,000 people—and the problem became one of securing

a maximum of efficiency in the technical and architectural design of the homes, and in a proper and artistic platting of lots and blocks, so that at a minimum rent and at a minimum initial cost the maximum of esthetic and practical housing facilities might be secured.

The adjudicators selected by His Excellency, the Lord Lieutenant, were Professor Patrick Geddes of Edinburgh, Scotland, Mr. John Nolen, of Cambridge, Massachusetts, and Mr. Charles MacCarthy, City Architect of Dublin, Ireland.

A brief outline of the main headings to be considered in the competition may serve to place the matter more clearly before the reader.

A. COMMUNICATIONS.

1. Roads, railway and canal systems should be considered in relation to the economical working and possible development (a) of general Irish and oversea traffic, (b) of the industrial and other requirements of the city and its immediately surrounding regions.

2. The location of existing industries should be discussed, with suggestions for future development and better localization if possible. The grouping of small workshops and the supply of garage accommodations, etc., should be considered.

3. Main thoroughfares and streets, existing and proposed. Under this heading should be discussed traffic, motor, cartage, tramway, etc., with modifications and extensions desirable, both as regards greater Dublin and the central area. Provision should also be made for the growth and extension of industrial, shopping, residential and other areas.

B. HOUSING.

1. Existing tenements. These had been described in the report of the recent Local Government Board inquiry. Suggestions were desired for their respective treatment, with sketch plans and estimates.

2. Dwellings required. These were estimated in the above mentioned report as 14,000. Housing to this extent, including possible utilization of existing tenements, should therefore be comprehensively dealt with. Sketch plans and estimates should be furnished for the various types of dwellings recommended, with block plans suitable to given aspects and showing proposed distribution of them in town quarters and in suburbs.

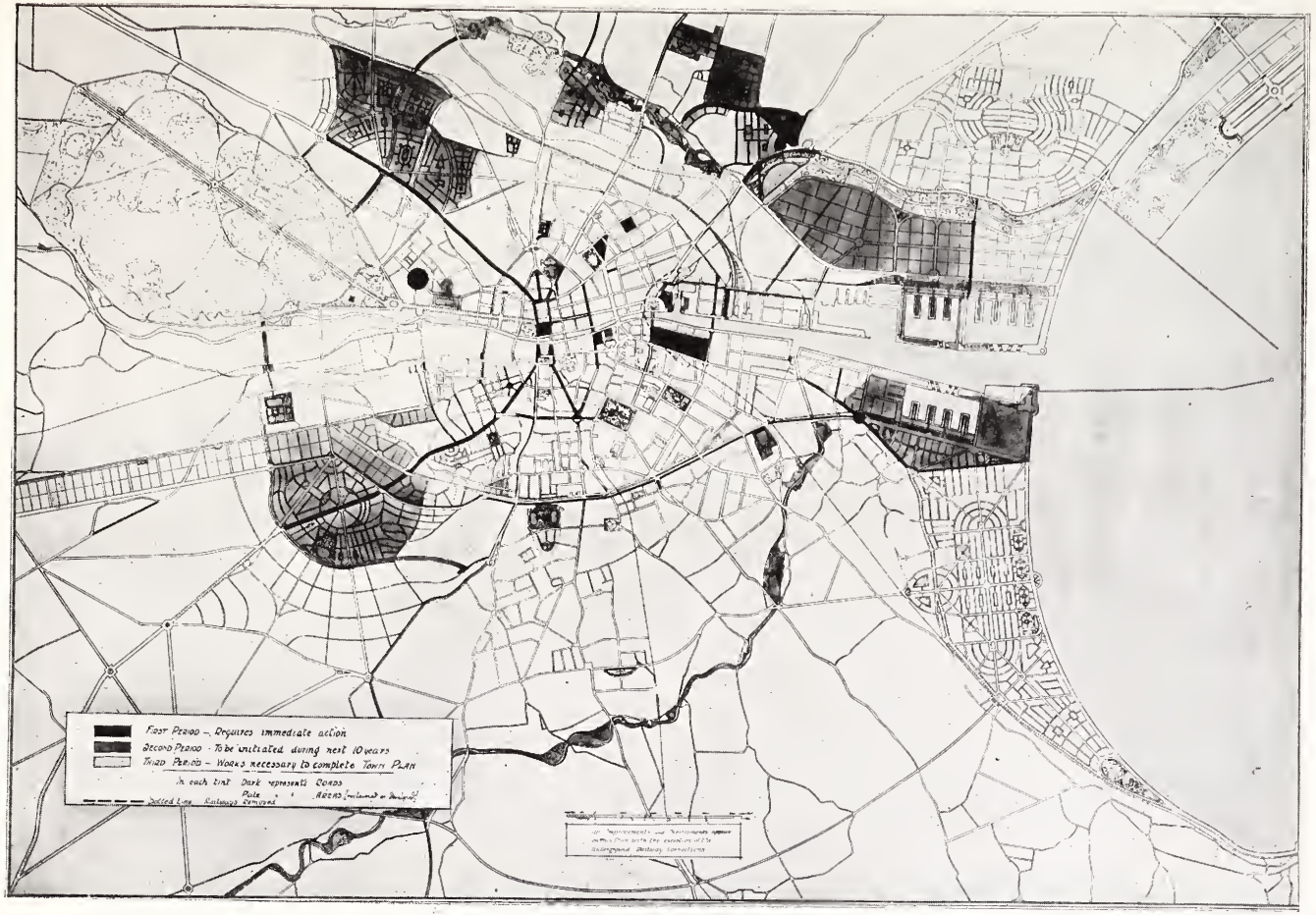
3. Density of housing. In the rebuilt town quarters this should not exceed 100 persons per acre, and in the suburbs 60 persons per acre.

4. Period of execution. A scheme should be outlined for a gradual execution of the housing scheme within a period of say ten years, and with approximate estimates of expenditure for each stage. Attention should be given toward minimizing inconvenience to the population concerned, and in particular toward the risks of local increase of congestion and rise of rentals which might be caused by demolition outrunning construction in any district.

5. Open spaces, playgrounds, gardens, etc. Attention should be paid to the provision of these in every quarter treated and upon as full a scale as might be compatible with local circumstances. It may be mentioned that the standards now being taken by all American cities are the reserving of one acre for every ten of the total area, or allowing one acre of recreative space for 200 of population. These standards are also being adopted in town planning schemes in England. Consideration might be given to the possible removal, in future years, to the suburbs or the country, of institutions of various kinds whose buildings and grounds, originally suburban, are now less favorably situated for their purposes, and at present occupy a large aggregate acreage within the city. Suggestions toward facilitating the return of such institutions to suburban or rural conditions by the remunerative replanning of their present sites for housing and other purposes could therefore be submitted.

C. METROPOLITAN IMPROVEMENTS.

1. Controlling general features. Attention should be paid to the main existing features of the city and possible fuller utilization of the advantages of its situation. Primarily the river Liffey, with its quays, bridges and approaches, gives op-



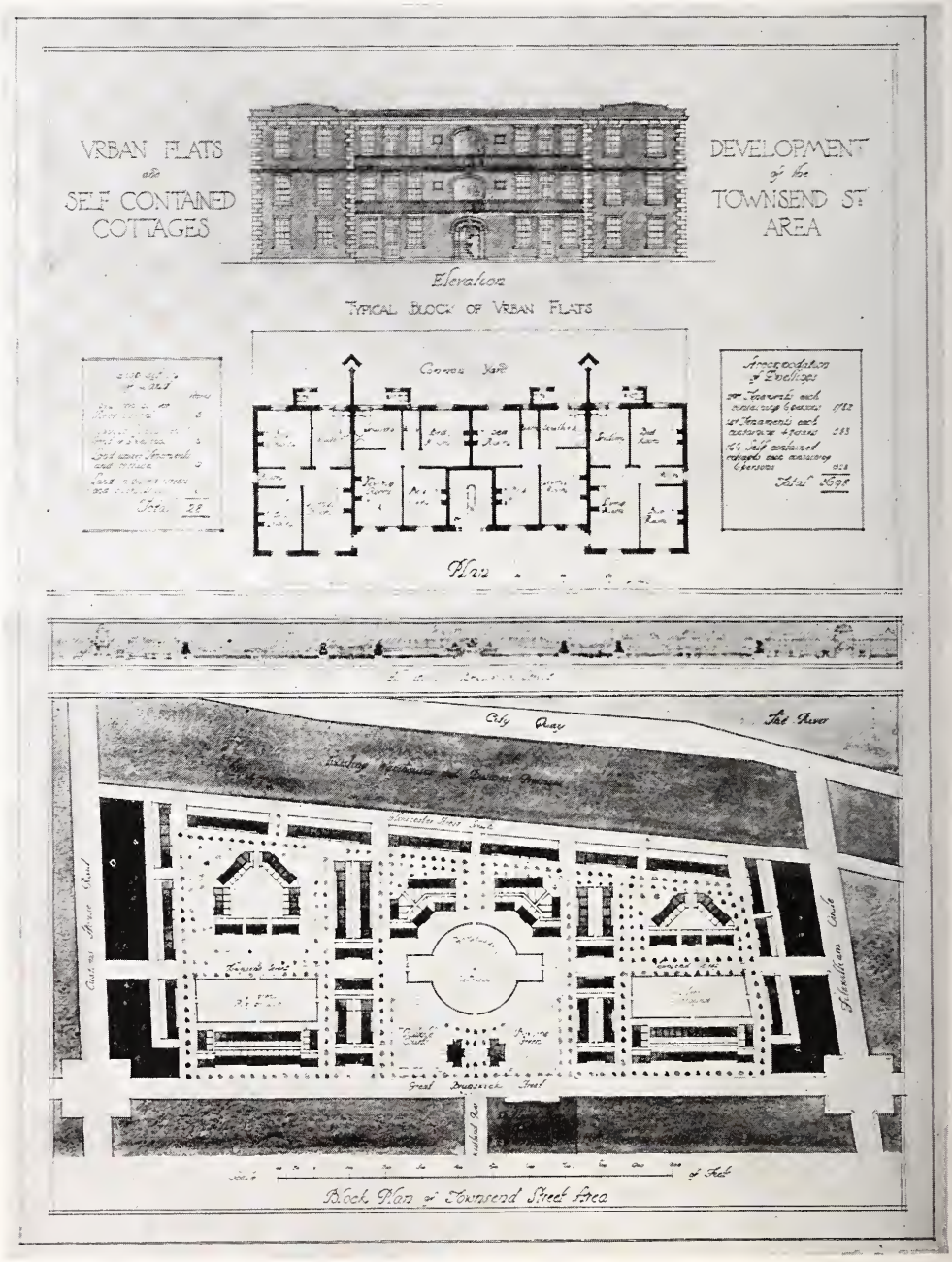
TOWN PLAN FOR DUBLIN, IRELAND. WINNING DESIGN BY PATRICK ABERCROMBIE AND SYDNEY A. AND ARTHUR KELLEY.



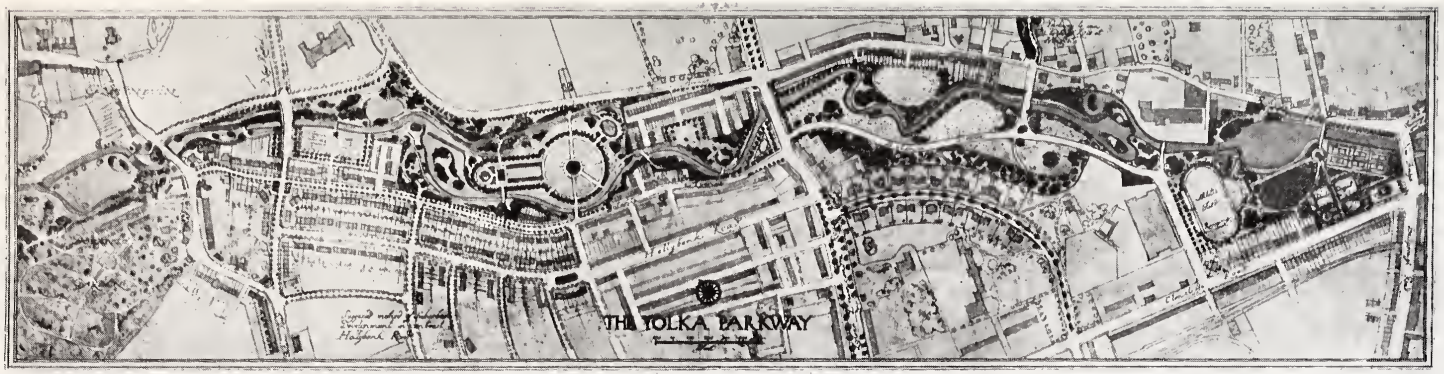
DETAIL OF CENTRAL AREA—TOWN PLAN FOR DUBLIN, IRELAND. WINNING DESIGN BY PATRICK ABERCROMBIE AND SYDNEY A. AND ARTHUR KELLEY.

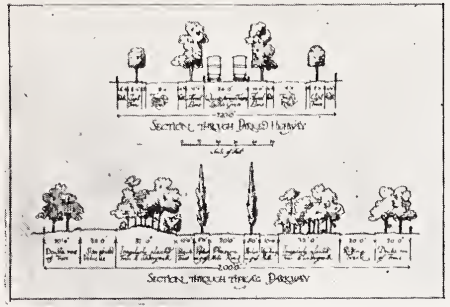


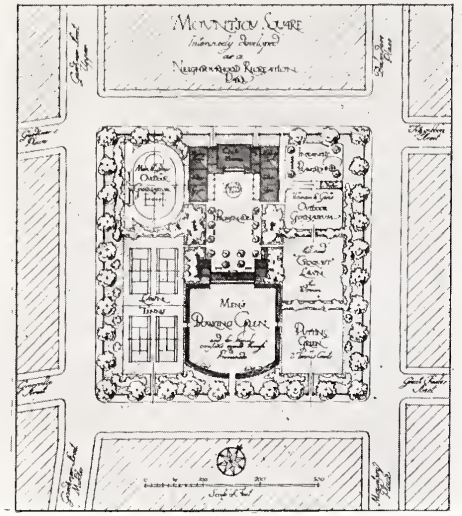
PARK SYSTEM—TOWN PLAN FOR DUBLIN, IRELAND. WINNING DESIGN BY PATRICK ABERCROMBIE AND SYDNEY A. AND ARTHUR KELLEY.

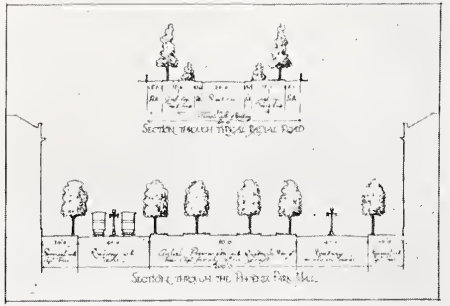


HOUSING DETAILS—TOWN PLAN FOR DUBLIN, IRELAND. WINNING DESIGN BY PATRICK ABERCROMBIE AND SYDNEY A. AND ARTHUR KELLEY.









PARK DETAILS AND ROAD SECTIONS—TOWN PLAN FOR DUBLIN, IRELAND. WINNING DESIGN BY PATRICK ABERCROMBIE AND SYDNEY A. AND ARTHUR KELLEY.

portunity for improvement; as also do the courses of the minor rivers and canals. The sea front should be considered and the views and accesses toward hills and mountains kept in mind.

2. Public buildings and associated planning. Suggestions might be made toward the provision of space for extensions when required of existing public buildings and institutions, national, municipal, educational, etc., particularly where improvement of the existing planning is suggested. Sites could also be indicated with appropriate planning for the surroundings for any or all of the following: Additional government and administrative buildings as required, Catholic cathedral, modern art gallery, opera house, or national theater, music auditorium, etc. Antiquities must be preserved and characteristic buildings of different periods should be retained as far as possible.

3. Parks and gardens, parkways, boulevards, etc. Suggestions were desired toward the improvement and better access and utilization of the existing parks and gardens and toward future extensions in connection with the park system with parkways and boulevards.

ADJUDICATORS' REPORT.

Perhaps no better brief and clear resume of the plans submitted may be obtained than by a few statements from the adjudicators' reports and recommendations. The adjudicators unanimously awarded the prize to a set of plans presented by Patrick Abercrombie, conjointly with Sydney A. and Arthur Kelley, and state that they are also unanimous in awarding honorable mention to J. M. Bogle, conjointly with Arthur Panton, H. O. Burroughs and O. Newbold of London; to F. A. Cushing Smith, the only American competitor, now Extension Professor in Civic Improvement at the Massachusetts Agricultural College, Amherst; to Kaye, Parry & Ross of Dublin, Ireland; to C. R. Ashbee, architect, of London.

The adjudicators did not endorse all or any of the particular proposals, nor did they feel that any should be put into execution to the exclusion of all other alternatives. They thought that undoubtedly many proposals of practical value had been presented from the standpoint of developing municipal, governing and administrative centres, as well as from the standpoint of engineering, architecture and the fine arts, and along the lines of medical and sanitary studies. Discussing the plans further under the headings noted above the following interesting and profitable contributions for the solution of the problem as presented by the various competitors were stated.

COMMUNICATIONS.

1. The expansion of Dublin as a seaport and its growth as a railway centre were problems which were vigorously grappled with. It is very evident that the local authorities have not appreciated nor attended to the effect of the buildings at the entrance to the city. This is evidenced by the viaduct which at present separates the main river landscape from the magnificent Custom House.

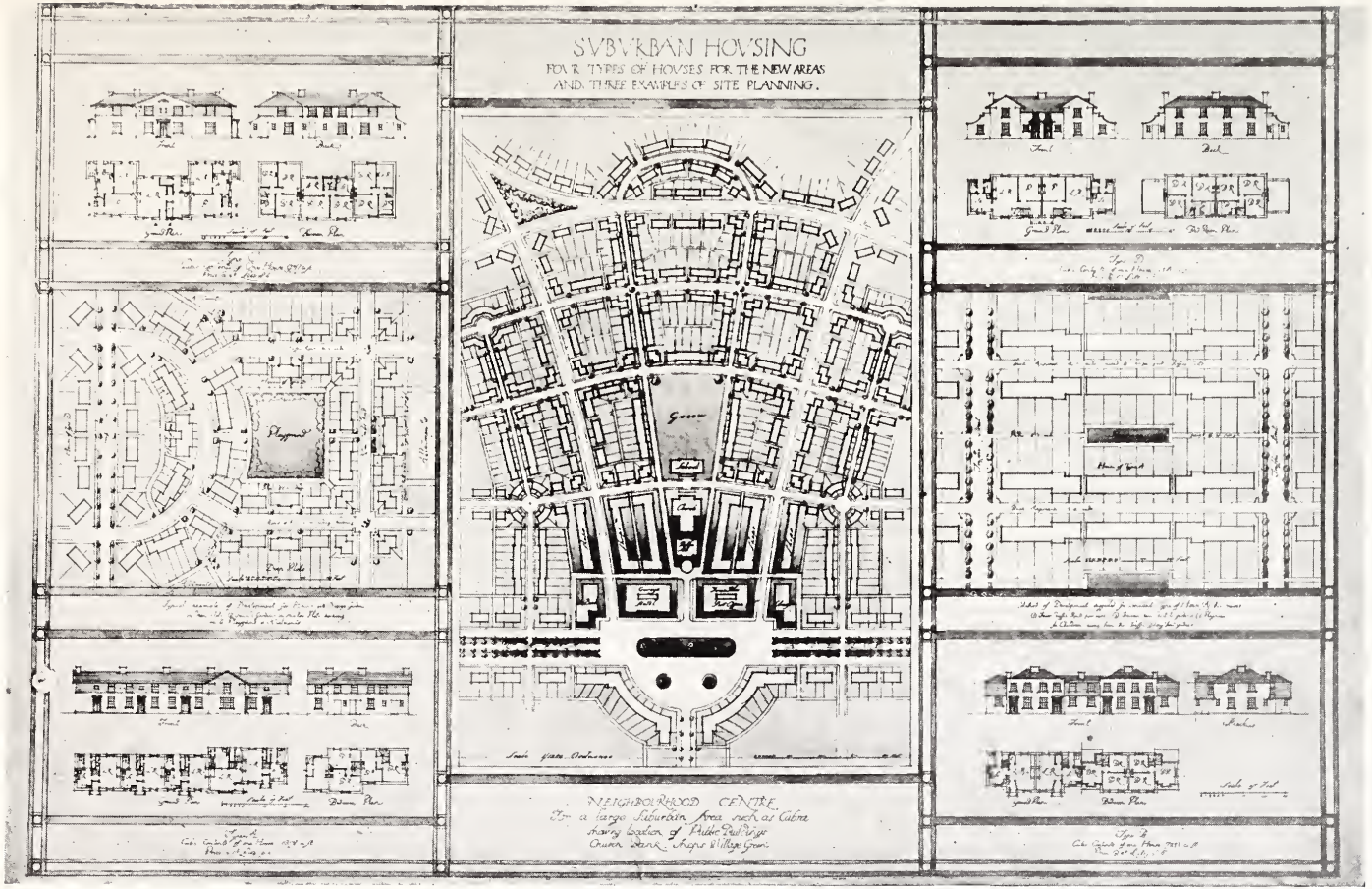
2. By the development of the dock system in a daring way the winning competitor suggested the reclamation of vast areas of tidal flats and sand banks from the sea, and their eventual utilization as sites for dwellings, factory areas and parks. There was a large and general agreement among the designs in providing for the formation of a factory area north of the docks, with associated dwellings and recreative spaces.

3. The central passenger station proposed by two of the competitors aims to provide a distributing centre for passengers and freight at a point easily accessible from all parts of the city, and even from the surrounding country by way of the radiating highways which converge about this point.

4. With the extension of the street and highway systems, extensions of the tramways are necessarily required.

5. Extensions for the motor bus routes are also suggested, embodying an increase of the motor facilities to the more or less distant centres of future population.

6. Location of industries. There are not many suggestions made as to the future location of industrial areas, although it seemed to be the opinion that



HOUSING DETAILS—TOWN PLAN FOR DUBLIN, IRELAND. WINNING DESIGN BY PATRICK ABERCROMBIE AND SYDNEY A. AND ARTHUR KELLEY.

it was possible to utilize large neglected areas and stable lanes for garages and workshops.

7. Thoroughfares. (a) Improvement of many of the old thoroughfares was suggested. (b) The plans included the cutting through of a number of new thoroughfares. (c) Despite the diversity the adjudicators were struck with the large amount of agreement in the recommendations which were made by the various competitors. There was a frequent extension of one or more first class thoroughfares westward from St. Stephen's Green.

8. The adjudicators' advice in regard to the city plans. The resulting general plan largely profits by the labor of different individual competitors, and the contributions in this direction are clearly acknowledged and should in a most substantial way be associated as fully as may be possible with particular improvements which they have suggested, and also with definite tasks in the vast field of housing to which they have given such serious attention and constructive advice.

METROPOLITAN IMPROVEMENTS.

1. The metal bridge. It has been suggested by many of the competitors that this should be replaced by one worthy of the site. A widening of the street along this line affords a direct route to the Broadstone terminus.

2. The Sackville street area. The destruction of this area in the recent rebellion was, of course, unforeseen by all the competitors. Several of them concurred in the widening of Earl street.

3. The connection of Dominick street with James street by way of a widened Liffey street, the replaced metal bridge, and a new curving thoroughfare to the Nelson Column, was recommended. This suggestion was made by the winning competitor.

4. Six competitors concur in the widening of Abbey street and the extension of this line to a point north of the Four Courts. Some of the competitors went further, to Park Gate, connecting directly to Sackville street at Sir Gray's statue, and thus constituting a complete east and west thoroughfare.

CIVIC CENTRE.

1. Professor Abercrombie clears a great place for a civic centre east and northeast of the Four Courts with a central below-level passenger station on the north and a provision for sites for new public buildings surrounding this area. The terminals of the main thoroughfares are here skillfully arranged to provide maximum efficiency and minimum congestion. The cathedral is located at the northern perspective of Capel street, east of King's Inn. The scheme is further completed by a new bourse on the southern quay below Christ Church.

2. In the designs of both J. M. Bogle and F. A. Cushing Smith the civic centre has been developed on a widened Parliament street; Capel street is made a boulevard from the City Hall northward, and the cathedral is placed east of the King's Inn, east of the Linenhall Barracks at the foot of Dorset street. (See accompanying sketches.) In general the adjudicators thought that the recommendation of practically all the competitors that the cathedral be placed on the north side of the city as a contribution to the improvement of the ancient though less favored quarters was well worthy of consideration.

3. The adjudicators further felt that the location of any public building, whether cathedral or opera house, must be where it can be conveniently reached by the populace, but it was thought that the improved thoroughfare system would aid public movement.

STREETS AND ZONES.

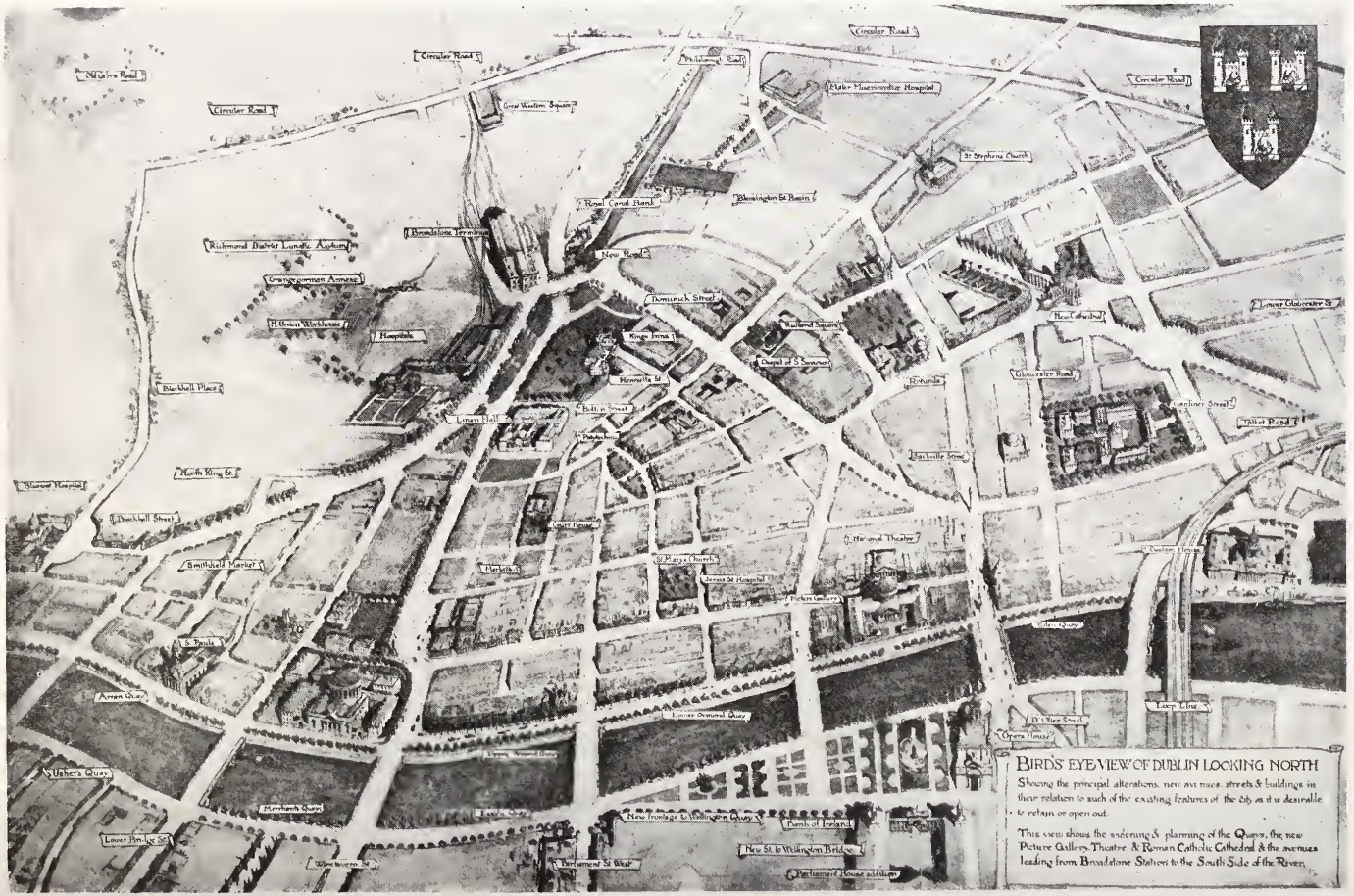
1. The adjudicators noted that in almost every city in Europe the western quarters of the city are more valuable, with the exception of Dublin. The improvements indicated should result in the solid enhancement of prosperity and an increased valuation of the western tracts in the city of Dublin.

2. Further, the best of the city of Dublin is the eastern half at present and distinguished planning is very evident here. All the more may the replanning of the west prove advantageous as a balance.

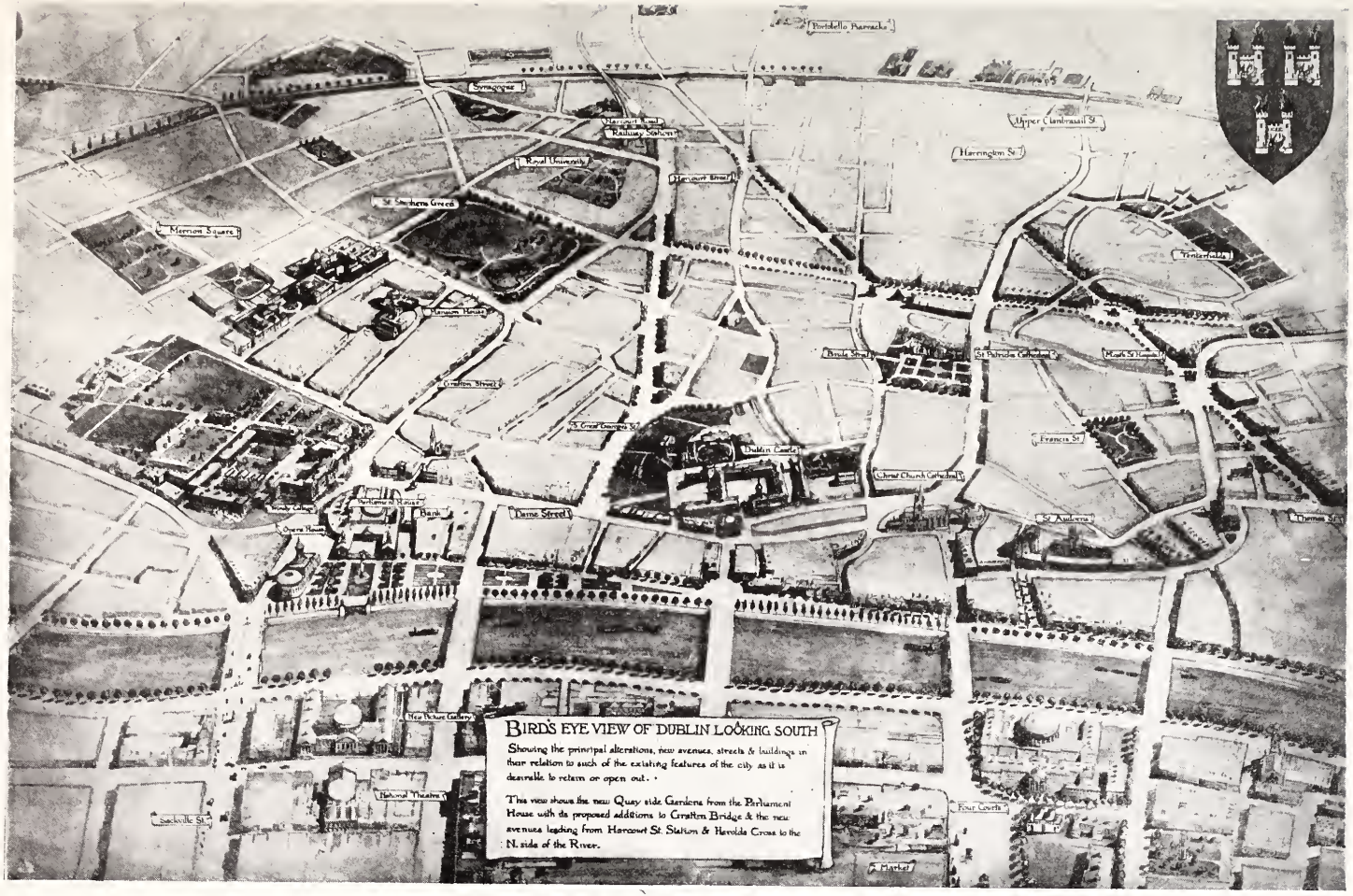
3. It also seemed to the judges that



TOWN PLAN FOR DUBLIN. DESIGN BY F. A. CUSHING SMITH. HONORABLE MENTION.



BIRD'S-EYE VIEW OF DUBLIN, LOOKING NORTH.
DESIGN BY C. R. ASHBEE. HONORABLE MENTION.



BIRD'S EYE VIEW OF DUBLIN LOOKING SOUTH

Showing the principal alterations, new avenues, streets & buildings in their relation to such of the existing features of the city as it is desirable to retain or open out. •

This view shows the new Quay side Gardens from the Parliament House with its proposed additions to Grafton Bridge & the new avenues leading from Harcourt St. Station & Herolds Cross to the N. side of the River.

BIRD'S-EYE VIEW OF DUBLIN, LOOKING SOUTH.
DESIGN BY C. R. ASHBEE. HONORABLE MENTION.

any too great widening of the shopping district streets, even where seemingly unavoidable owing to traffic requirements, has great danger by depreciating their value for business purposes.

4. The improvement of certain thoroughfares which may have fallen in value, due to unusual conditions surrounding them, may be readily effected by judicious extensions, by connections which again restore them as thoroughfares.

PARKS AND GARDENS.

1. The need of a general civic survey was emphasized, and the survey plan presented by Mr. Bogle, showing the parks and tenements, is a valuable contribution on a particular subject.

2. The repair or rebuilding of the central areas on the present site is scarcely a remedy for the deterioration in buildings or population. The judges felt that it was very essential to increase the amount of parks and gardens.

3. The areas set free by the removal of the barracks from the city to the rural areas have in most cases been used for parks and not as building sites.

4. In general the minor river courses have been preserved and utilized for parkway purposes.

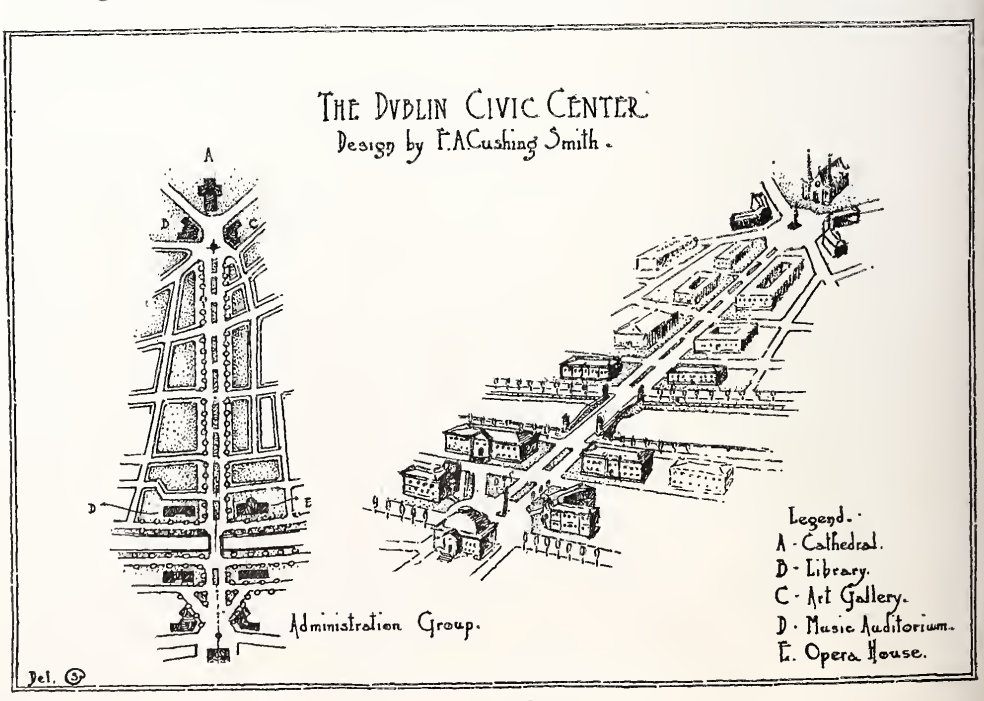
HOUSING.

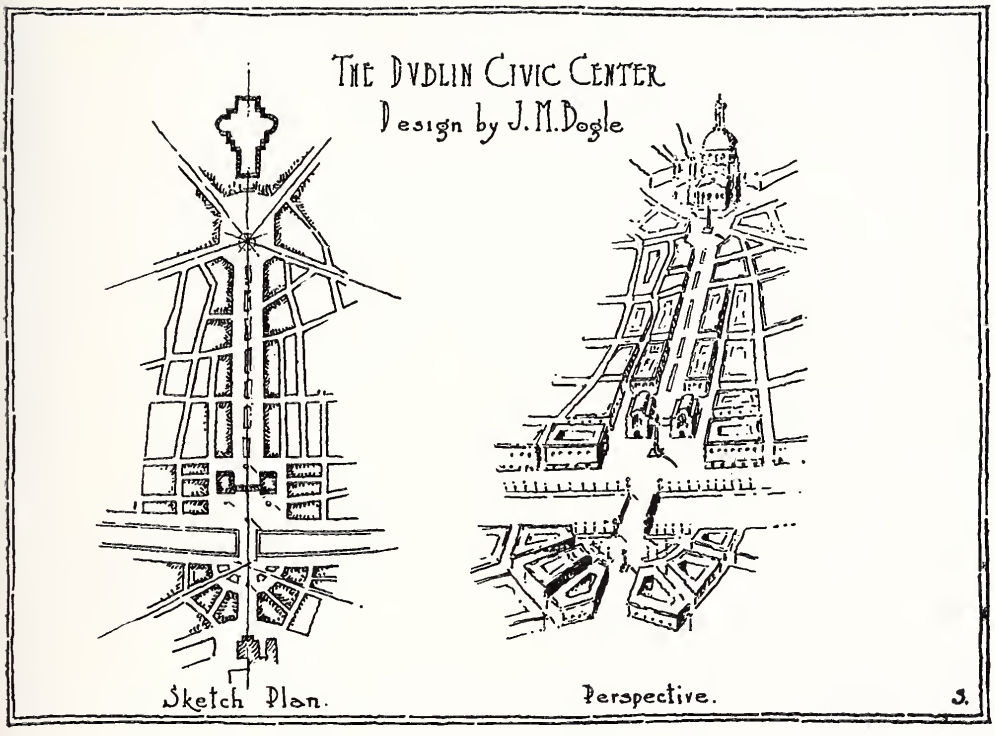
1. Practically all the competitors offered plans and accompanying reports to alleviate the housing conditions within the city. The adjudicators suggest that work be distributed among the various competitors, or a substantial number of them, thus avoiding excessive uniformity in the details of the plan.

"There seems to be a popular misconception that the working classes cannot be economically housed in the suburban areas. This can, however, be done in conjunction with the improved facilities for tramways and other means of locomotion or by the decentralization of industry.

"In the case of the great port of Antwerp, where even the dockers live in the rural districts, they come to work on the suburban trains. The workman can thus bank his unemployed time in the cultivation of a garden allotment about his own residence.

"Any customary scheme of housing necessitates a relaxation of the by-laws,





but this suggestion should be considered on its merits. There are, indeed, substantial financial difficulties in the present circumstances to give adequate returns upon the investment."

The materials employed in the recommendations for housing consist practically entirely of wood, sheet iron, etc., so that the possibility of mud and thatch are often overlooked.

Dr. Nolen further summarizes the report as follows:

1. That the rebuilding of sections of Dublin, recently destroyed, should wherever practicable be combined with and take advantage of suggestions contained in the competitors' plans and thus made a part of the general plan for the permanent improvement of Dublin.

2. Let steps be taken toward the collection of fundamental data and the preparation of local surveys, especially with regard to conditions of industry, etc.

3. Let the expenditure of the new loan to the city of Dublin be related as closely as possible to sound and farseeing proposals for the improvement of housing and the associated conditions of recreation for wage earners.

4. Let steps be taken for the creation of a town planning committee for Dublin with ample authority and funds.

5. Let a conference of competitors be held as early as possible for purposes of considering the large issues of the competition and to provide for the publication in a suitable form of a representative collection of plans submitted and extracts from the reports.

In the introduction to his well written report Professor Abercrombie says: "Dublin today presents a similar spectacle to Paris prior to the operations of Napoleon III and Haussman; it is a city of magnificent possibilities containing features of the first order, but loosely correlated and often marred by the juxtaposition of incongruities and squalor. As at Paris, central areas which should be of first rate commercial importance are occupied by slums, and streets of noble architectural dignity are tenement-ridden.

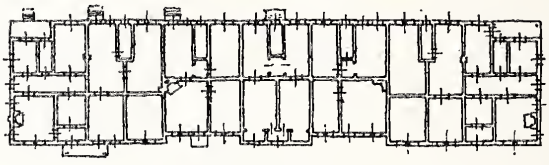
"But more fortunate than Paris, Dublin is to be remodeled during a period

Dublin Housing Schemes

Design by F.A. Cushing Smith.

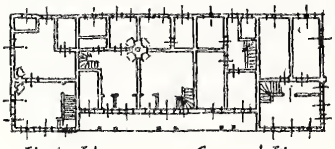


Front Elevation.

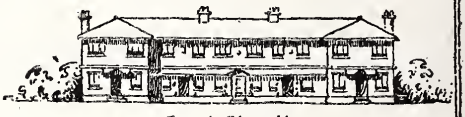


Floor Plan

Seven Family One Story House.



First Floor Second Floor



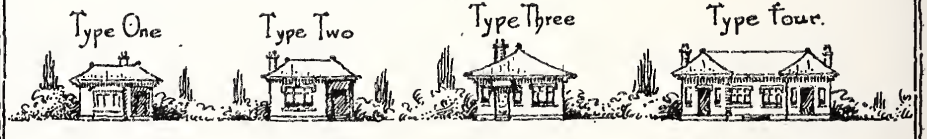
Front Elevation.

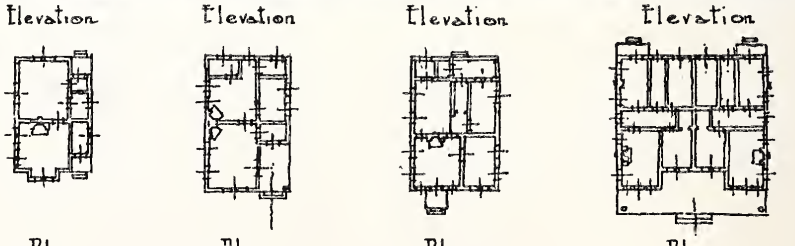
Five Family Two Story House.

Del. G

Dublin Housing Schemes

Design by F.A. Cushing Smith.





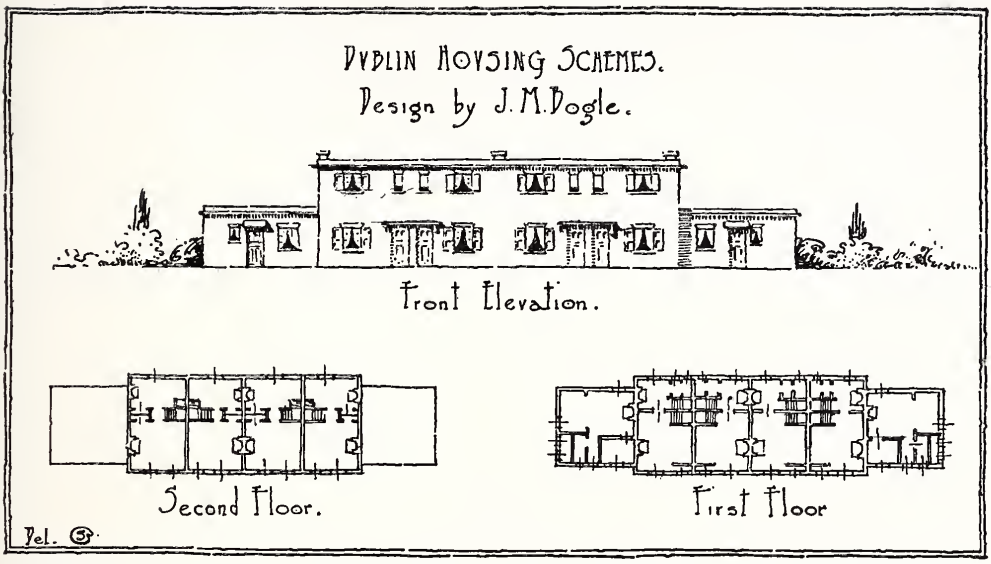
Plan Plan Plan Plan

Legend:-

Type One: Single Family - Two Room. Type Two: Single Family - Three Room.

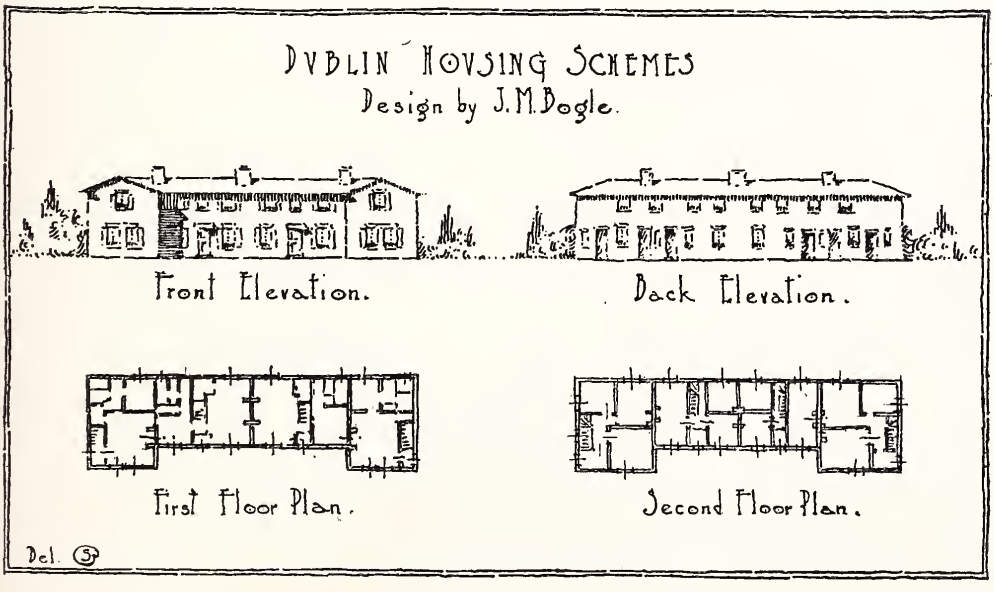
Type Three: Single Family - Four Room. Type Four: Two Family - Four Room.

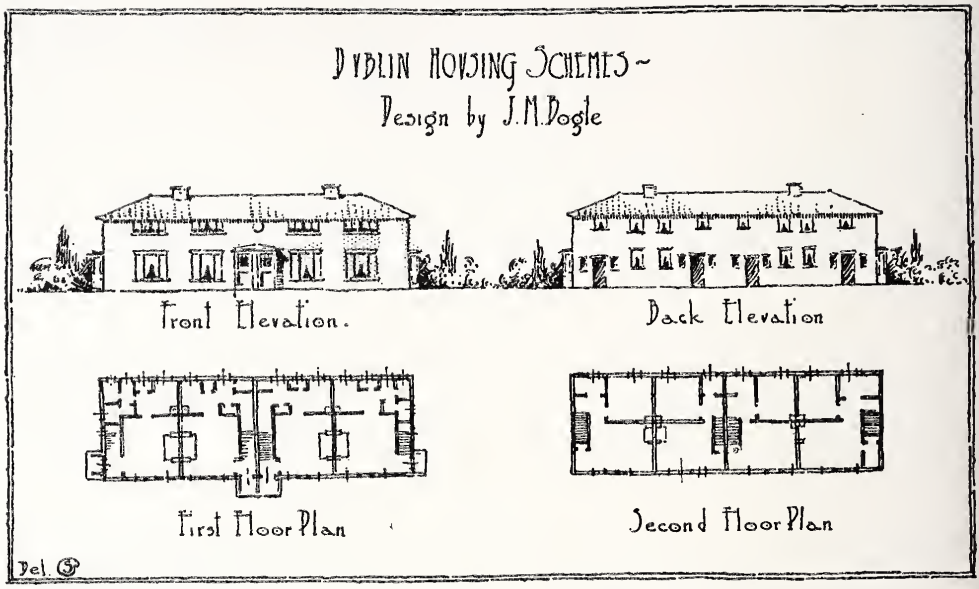
Del. G



of great town planning enlightenment, when architectural effect and traffic conveniences are not alone regarded as the chief essentials. Hygienic housing and adequate park provision, those two aspects neglected by Haussman, are now given their proper place, and these four elements will compose a city that is worthy to be the capital of a modern country.

"The noble features which Dublin possesses are well known: the splendid width of Sackville street; the expanse of Phoenix Park, with its central avenue; the sweep of the Liffey; the glorious Customs House; Dame street, with the City Hall and the Castle at one end and the Bank and Trinity College at the other; the north and south circular roads, features which no English town possesses. These and many isolated buildings, such as the Four Courts and King's Inn, are ready to be worked into a city plan which will bear comparison, monumentally,





with Paris itself. The reestablishment of a National Parliament should give the necessary impetus to set a great town plan in motion, and the access of material prosperity which will ensue will provide the means to carry it out."

Along the line of town planning legislation, Professor Abercrombie further recommends that he feels it necessary to consider new legislation to affect not only the neighborhood of the city, but also the entire country. He feels that a large industrial and commercial development is expected to take place in the near future, and the exploitation of the mineral wealth of Ireland will call for the greatest care if such is to be carried out according to the modern conception of housing and town planning. It will be necessary to automatically stem the tide of emigration, to conserve the labor forces necessary in such a work. He suggests further a commission on town planning, having local boards throughout the country dealing with each separate district or locality and reporting and collating with neighboring authorities to the central board. He suggests that the composition of the local board be as follows:

1. The mayor or chairman of the local authority.
2. The engineer or surveyor of the local authority.
3. The medical officer of health.
4. Two or more representatives of the ratepayers, preferably persons with a knowledge of building and finance.
5. A person skilled in the art of town planning and housing, who is not only an expert, but who is capable of carrying out an artistic and practical scheme.

He recommends further that the central board in charge of all of this work should consist of the following:

1. The chief town planning controller.
2. The treasurer for housing and town planning.
3. The chief medical officer of health.
4. The chief architect or surveyor.
5. The cabinet representative of the government housing and town planning department.
6. The chief inspector of the local town planning boards.

Professor Abercrombie further suggests that a report and recommendations for the scheme when finally approved be submitted to Parliament, and within a limited period this should become a law and be entered upon the statute books; the central board making the local board responsible for the carrying out of the scheme.

One of the most unusual recommendations in the winning plan was that of the Power Citadel at the mouth of the harbor,

where the raw material of energy which enters the harbor may be converted into motive force for the industrial activities of the whole community. The designers question why it is necessary to pay for the carting of the coal inland and distributing it to every factory when one single operation can convert it near where it enters the city. The architectural effect, they maintained, would be wonderful and would form a magnificent central point of the reclaimed Dublin Bay.

As has been mentioned in an earlier portion of this article, the comprehensive report of the Parliamentary Inquiry Committee into the housing conditions of Dublin brought forward many interesting factors, and certain conclusions were reached which would certainly be of value to a city in the United States and abroad. As summed up by Professor Abercrombie these conclusions were as follows:

1. That a large proportion of the population occupy overcrowded and unsanitary dwellings, owing to the scarcity of suitable accommodation at a reasonable rent.

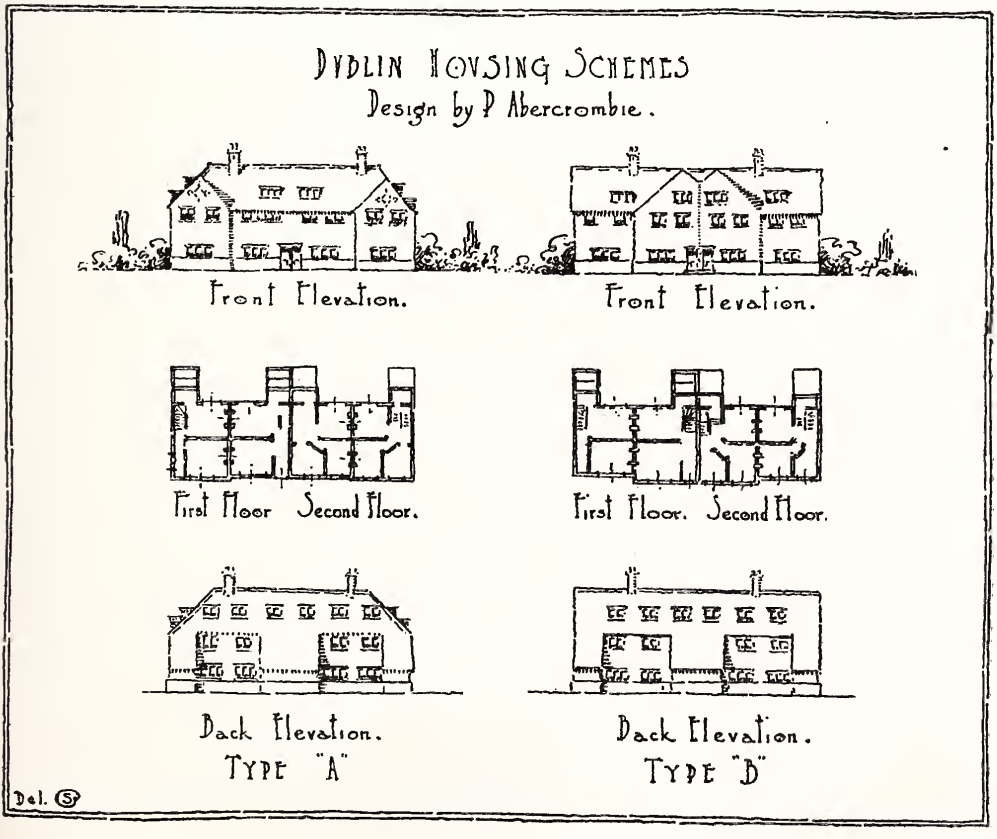
2. That the supply, whether by public authorities, public utility societies or private enterprise, is less than the demand.

3. That the high cost of land, the incidence of rates and local bylaws militate against the supply being maintained, and their recommendations may be stated as follows:

a. That as a result of a complete survey of their district a local authority shall prepare a scheme for the provision of the necessary housing accommodations for the population likely to be permanently resident within this area.

b. That where cheap sites are not available transit schemes should be promoted and undeveloped areas town-planned, and congested areas replanned.

c. That public utility societies should be assisted financially to enable them to provide such accommodation.



d. That unsanitary property should be improved and adapted to modern conditions in order to mitigate the hardships of the present closing order procedure.

The accompanying sketches show in general the types of houses which were recommended by the various competitors to improve these unusual housing conditions. For the most part, as has been previously stated, the houses were to be built of stucco or brick and the average price per house was largely controlled by the number of rooms, and further by the cost of the land per acre upon which the house was located, being limited by the conditions of the problem to 100 persons per acre in the more crowded sections of the city, and 60 persons per acre in the outskirts. The housing schemes presented brought out many points of value, involving in practically every case garden allotment schemes, and in a way garden city ideas, so that the results cannot but be satisfactory in every way, and artistic and esthetically successful as well. Professor Abercrombie suggests that it is advisable not to supply all the houses with uniform gardens, but certain homes should have moderate sized gardens, others only small front gardens or yard space. This gives the possibility for the man who is not fond of gardening, but who likes living in these suburban conditions, not to be burdened with garden space which he does not want; whereas his neighbor, who may be an enthusiast, can take up his share; a suitable arrangement is indicated for such plots, the allotments being immediately at the back of such houses (this is the method, it may be remarked, that obtains at Port Sunlight in contradistinction to the each-house-its-own-garden at Bournville). He further suggests that in connection with these houses a small local children's playground should be provided, or possibly a bowling-green, to be of use to the houses that back on to it.

PARKS AND PARK SYSTEM.

The possession of the immense acreage of Phoenix Park, a tract which alone contains over 1,600 acres, gives a very large percentage of park area to the total area of the city, which unfortunately is scarcely a fair estimate, because these parks are not evenly distributed throughout the environs, giving a very large park and recreation section to one area, while others suffer through lack of these facilities.

In the various schemes presented in the competition, the future proposed parks and playgrounds have, so far as possible, been conveniently apportioned to the various sections of the city, and in the newly platted portion, play and recreation facilities have been studied, including small neighborhood parks, various squares, etc. In the case of some of the designs the river courses, notably the Tolka River at the north and the Dodder River to the south, have been made a nucleus for delightful parkways, where all the natural beauties of the rugged scenery of the region may in the future be preserved and improved and made available for the use and enjoyment of future generations.

THE HARBOR.

All the designers, however, seem to feel that to further the advance of Dublin's commercial future the docks and railway facilities at the harbor's entrance should be materially increased to care for the hoped-for growth in shipping, while by the formation of an easy point of transshipment from rail to ocean freight, home industries might be stimulated, and through the export trade thus developed increase materially in output the Irish-made manufactured articles.

In conclusion it might be stated that but recently the Corporation of Dublin negotiated a loan of large denomination from New York bankers, the principal of which is to be devoted directly to the improvement of the housing conditions previously pointed out. It is hoped that steps may, at an early date, be taken to have such portions of the report and plans published as may bring before the citizens of Dublin in a concrete way the detailed recommendations of the competitors. Provisions for early conferences will doubtless be made, to be attended by authorities interested as well as by the competitors themselves, looking toward the final completion of this most worthy aim, meaning as it does the proper housing and thus the happiness of a large number of people and the future growth and development of a great city.



TEMPORARY OFFICE BUILDINGS OF THE INSULAR GOVERNMENT AT BAGUIO, THE SUMMER CAPITAL. 1910.

The WORK OF WILLIAM E. PARSONS IN THE PHILIPPINE ISLANDS

By A. N. REBORI

Part II

THE home and origin of classic architecture are in the near tropics, where it rightfully belongs. As to colonnades, their original purpose was one of circulation and not mere decoration. In the façade treatment of the Paco Station, an important suburban station in Manila, its designer frankly embraced the opportunity offered by the climate to use colonnades, without the necessity of glazing them in, as is done in temperate climates, for their original purpose of circulation.

Placed at the end of a newly made boulevard and facing a semicircular plaza, the monumental appearance produced is due, for the most part, to straightforward design, aiming at fine proportions and relation of masses, independent of elaborate ornamentation. Where ornament is employed, as in the case of the garlanded American eagle surmounting the main cornice above the central motive, its use is strictly conditioned by the limitations of the material employed. Reinforced concrete is handled with a sureness and skill that would attract attention anywhere; and the performance is all the more commendable because of the obstacles encountered in the Philippines, where skilled labor is indeed scarce and difficult to train.

The Paco Station, aside from its excellent design, is an important structure, marking the culmination of Mr. Parsons' career as Government Architect for the islands. In fact, it was completed only shortly before he finally left Manila in 1914.

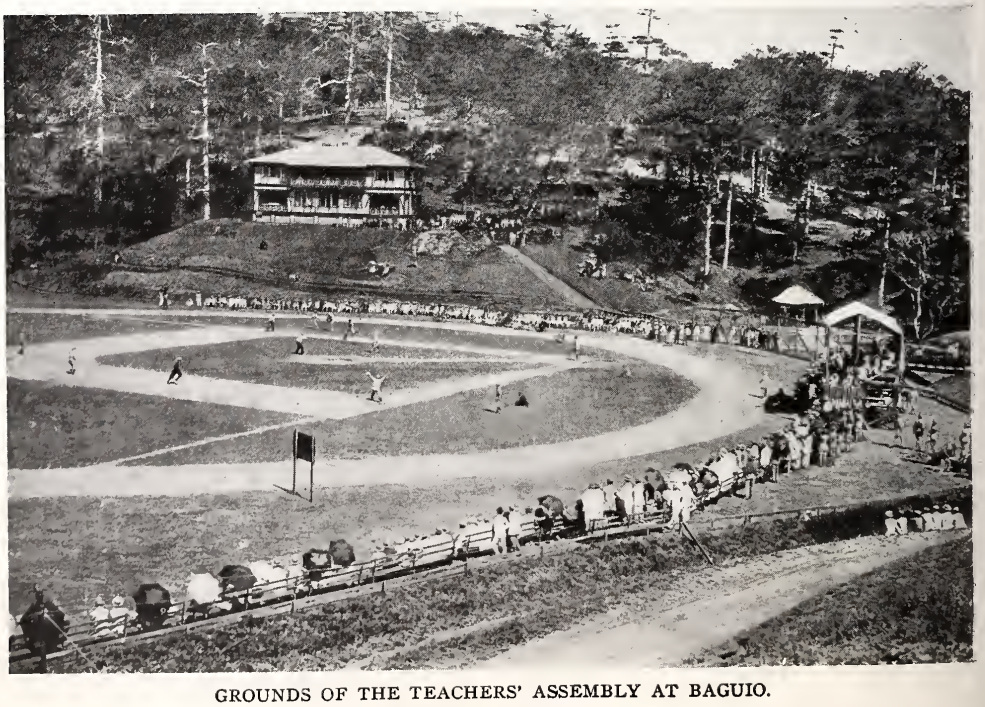
At this time a number of city plans had been established, including those of Manila, Baguio, Cebu and Zamboango. The most fully developed is that of Baguio, now famed as a summer capital; the executed plan is based on the original recommendations of D. H. Burnham and Pierce Anderson, made in 1905.

Baguio is 160 miles north of Manila, in the Benguet Mountains, at an elevation of 5,000 feet above sea level. A pine forest in 1905, it is now a popular summer resort, containing the summer headquarters of the Government, a recuperation post for the army, a hospital and numerous schools. Its climate is equable, the thermometer ranging between 40 and 75 degrees Fahr.

Although its executed plan was based on the original preliminary plan and recommendation, considerable rearrangement was found necessary on account of contours, the topography being extremely broken. The chief change consisted in placing a municipal park in the low-lying centre of the townsite, instead of a business block. Mr. Parsons' revision seeks to confine the building improvement to the surrounding slopes and hillsides. His plan also takes in a much larger area than that covered by the original Burnham plan.

Nearly all of the improvements shown on the final plan are now executed, though most of the buildings are of temporary materials consisting of native pine construction, covered with flat sheets of galvanized iron marked off in panels. It was the intention to replace these buildings by more permanent structures as appropriations became available. Whether this will be accomplished in the future is now entirely problematic.

In the case of each city plan, after the general scheme had been adopted, the first step was the erection of one or more important buildings, necessitating the cutting through of new streets, which followed accordingly. The main lines once fixed, the rest of the plan takes shape in due order; the Custom House at Cebu is such a building, permanently located in the relative position assigned to it on the general city plan. I doubt if this method would bear fruit in our own city improvement plans, in which everything depends on slow-moving legislative bodies. In the Philippines, the men



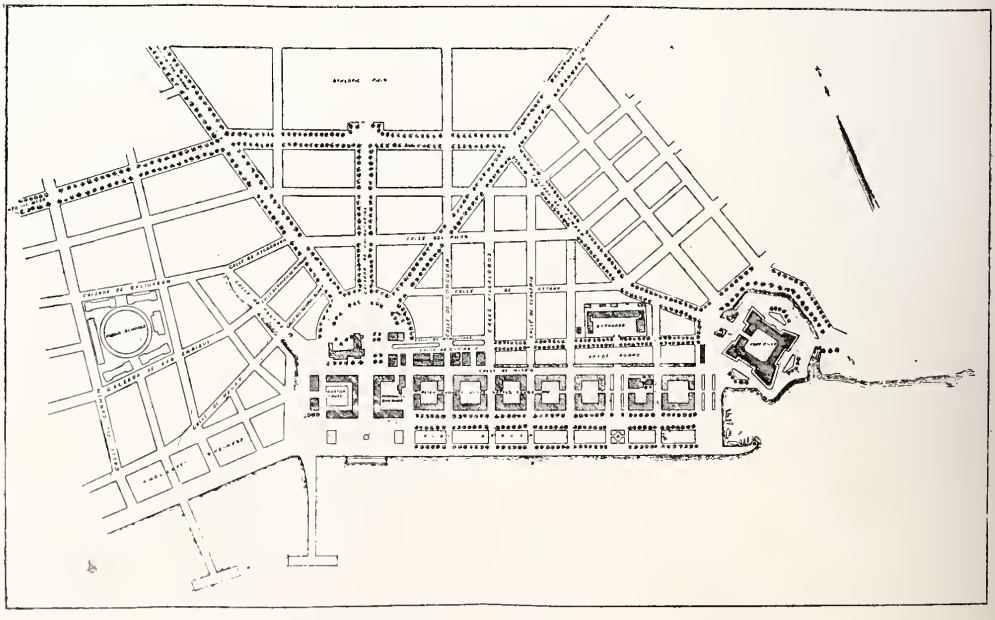
GROUNDS OF THE TEACHERS' ASSEMBLY AT BAGUIO.



EXECUTED PLAN OF THE CITY OF BAGUIO.



PLAN OF GENERAL DEVELOPMENT OF THE CITY OF CEBU. 1912.



PRELIMINARY PLAN FOR THE DEVELOPMENT OF THE CITY OF ZAMBOANGA. 1916.



PROVINCIAL GOVERNMENT BUILDING, SANTA CRUZ, LA LAGUNA. 1908.



CUSTOM HOUSE, CEBU. 1911.



PROVINCIAL GOVERNMENT BUILDING, CAPIZ. 1912.



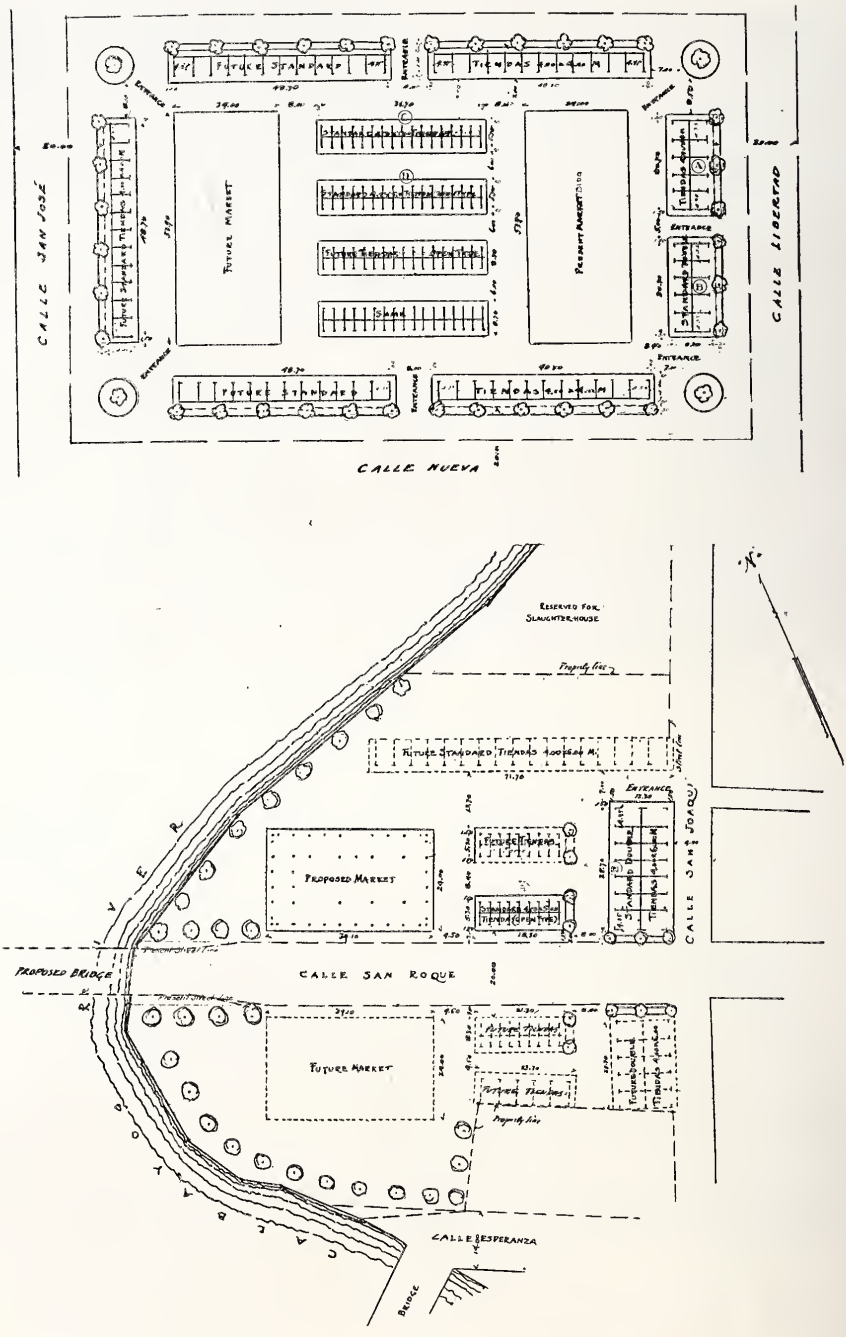
PROVINCIAL GOVERNMENT BUILDING, ILOILO.



PROVINCIAL GOVERNMENT BUILDING, LAGASPI, ALBAY. 1907.



PROVINCIAL GOVERNMENT BUILDING, SAN FERNANDO, PAMPANGA. 1907.



TYPICAL MUNICIPAL MARKET LAYOUTS, AT CALBAYOG, SAMAR (ABOVE) AND AT POTOTAN, ILOILO, SHOWING MARKET BUILDINGS AND TIENDAS, WITH PROVISION FOR FUTURE EXPANSION AND WIDENING OF STREETS SURROUNDING THE MARKET SITES.



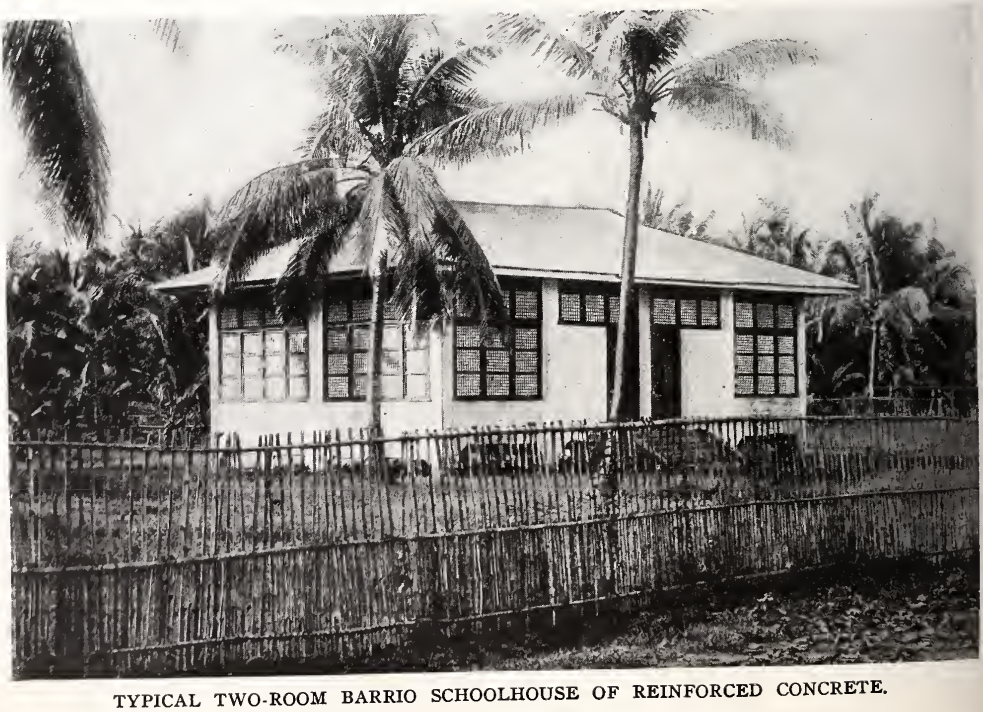
TYPICAL MUNICIPAL MARKET, FREQUENTLY LOCATED ON RIVERS, THE NATURAL LINES OF TRANSPORTATION.



TYPICAL PROVINCIAL PRISON, TARLAC. 1913.



TYPICAL SIX-ROOM SCHOOLHOUSE OF REINFORCED CONCRETE.



TYPICAL TWO-ROOM BARRIO SCHOOLHOUSE OF REINFORCED CONCRETE.



TYPICAL EIGHT-ROOM SCHOOLHOUSE OF REINFORCED CONCRETE.

who ordered city plans invariably provided the laws to put them into execution. I am told that three days after the general plan of Manila was approved work was begun. The iron hand of power, when wielded for the public good, is a mighty weapon. Witness the stupendous engineering task accomplished in the Panama Zone, the work of our army surgeons in Cuba, and the sanitary improvement in the Philippines, especially for the conservation of perishable foodstuffs. Add to such active scientific ability the services of an able architect, and the results achieved by the united efforts are bound to be most gratifying, as they assuredly have been in the Philippines.

An important step making for better sanitary conditions was brought about by the erection of municipal markets. Standard plans were prepared for markets of all sizes, from the small Provincial markets to the large market at Manila. Usually these structures are located along the bank of a river, affording easy access by boat, direct from the producer to the consumer. They consist of straightforward concrete constructions, open on all sides and roofed in a simple way. The expansive floor areas are of concrete, so that the place may be washed down with a hose daily, allowing no food waste to remain over night to rot. In each case a special location plan, providing for street widenings, approaches and extensions with a view to future expansion, was prepared. Markets were constructed by the municipality, on money loaned from the Insular Government, the amount being determined by the estimated earning power of the market.

Standard plans for schools, as for markets, were used in buildings of all sizes, from one room to twenty rooms, according to requirements. Materials, forms, windows, doors, blackboards, etc., were all standardized and made uniform, except for the more important buildings. The customary Provincial school is but one story in height, built of four-inch reinforced concrete walls on ten-inch by ten-inch piers, purposely left open below the floor in order to allow easy inspection of floor timbers for the destructive anay. It is quite evident from the appearance of these simple buildings that Mr. Parsons confined his efforts to the proper functioning of the utilitarian side of the problem, without resorting to the use of extraneous ornament for effect. In the case of both schools and markets the cost of construction was reduced to a minimum consistent with durability.

On the other hand, the Provincial buildings housing the local seats of government throughout the islands are of architectural importance. In their design, general proportion, exactness of detail, and handling of material, the designer shows his ability to full advantage. Each building is treated as a distinct problem and is characteristic of its use and location. Here we see conspicuously the hand of the competent architect. The success of these Provincial buildings depends upon finely proportioned rein-



MR. PARSONS' RESIDENCE, NEAR MANILA.

forced concrete masses and upon interesting relationship between openings and solids rather than upon mouldings or applied decoration. Added charm is imparted to the design by the use of conchas for window panes instead of glass, and the occasional introduction of ornamental iron. In every instance Mr. Parsons makes the most of the features of local architecture adopted. Consequently his buildings, in addition to being excellent in design and construction, are characteristic of the country as well.

This impression prevails throughout in his work, whether the subject is of a monumental nature or a simple piece of domestic design, like his town residence overlooking Manila Bay. I do not mean to imply that a new architecture is to be found in Mr. Parsons' method of expression, nor is it my intention to proclaim for it any great amount of originality, but surely it is far in advance of the stereotyped classic architecture perpetrated in so many American public buildings. The underlying principles of design shown in his work are based on sound classic tradition. The designer's personal touch, coupled with his adaptation of native means to native requirements, has achieved distinctive design in terms of suitable building material.

Before the period of our Government's constructive interest in the Philippines, reinforced concrete was ignored in the islands. To-day its use is common practice. It furnishes a durable substitute for the old method of stucco on brick left by the Spaniards, and provides a permanent construction suited to the needs of a tropical country. As all the more pretentious work by Mr. Parsons is of a durable and substantial quality, its influence for local betterment is bound to be far-reaching.

Some time in the future, when the Filipino finally settles down seriously to the development of things artistic, we may look for the creation of an indigenous architecture expressive of the country and its people. Until then very little can reasonably be expected from a race without deep artistic tradition or scientific knowledge. In the meantime, the buildings erected and the city plan improvements executed by our Government, will stand as worthy examples, setting a high standard from which in the coming years native architects can derive abundant inspiration.

HOMEWOOD BALTIMORE, MD.

Text and Photographs
by John Martin Hammond
Measured Drawings
by Joseph V. Phelan

PART I.

HOMEWOOD, the very beautiful subject of this study in Colonial home building, is situated within the limits of the city of Baltimore, and its location has been described in detail in the pages of this magazine. Sufficient here to say that it stands on a hill, and even in this day and generation, environed by the commonplace houses of the city, it has a pleasant outlook. The prospect when the house was new must have been very beautiful indeed.

One interesting aspect of the consideration of Homewood is that the house is one man's summing up and expression of the best that was known of Colonial house building. We do not know who was the architect of Homewood, but we do know that he had access to a large reservoir of information. Consider the circumstances of the case: The period of fine home building in Colonial Maryland began about 1740 and continued without interruption until the end of the century; Homewood was built in 1809, and was a rich man's gift to his beloved son.

The architect therefore had precedent and a full purse together to aid him in making the house a fine exposition of that age's ideals. Historical interest is given to the place from the fact that it was built by Charles Carroll of Carrollton, the richest man in the colonies at the time of the signing of the Declaration of Independence, and was his gift to his son, Charles Carroll, who became known as "of Homewood."

The house is not large, and in many of its features anticipates the trend of the present day style of building. The principal rooms are all on one floor, the rooms of the second floor being very unpretentious indeed. The second floor of the wings is not finished, and that of the central portion is to be considered more in the light of an attic. The length of the longitudinal axis of the house is one hundred feet, and of this distance forty-six feet are to be accounted for in the central portion.

In its general disposition of space the house is absolutely symmetrical with regard to a line drawn from the front door to the back door, or, in other words, with regard to the transverse axis, the difference in rooms being one only of inches.

For convenience it is as well to think of the house in two parts—the body and the wings. The body is divided by two bisecting hallways, the main one of which leads from the front to the back of the house, and the entrance and exit of the hallway are marked by very elaborate doorways and porches with porticoes.

The decoration of the house is confined to the central portion. The wings are not ornamented at all, except in the single instance of the state room, which is in the east wing.

The wings consist of three rooms each. The floor level here is two feet nine inches lower than that of the main body. The reason for the difference in level of the floors, though it is sometimes puzzling to account for in these old buildings, can be seen very plainly when one reflects on how great a height of ceiling was deemed necessary in the old days, and how low the roof pitch is in the connecting portion, between the wing and the main body of the house. An architect nowadays, no



HOMEWOOD, BALTIMORE, MD.
Picture taken during construction of new Johns Hopkins University buildings, and showing dummy walls in front of wings where workmen learned



ENTRANCE—HOMEWOOD, BALTIMORE, MD.

doubt, would raise the floor level of the wings so as to be at the same height as that of the main body, or make some compromise by means of which the tenant might walk from one part to another of his home without having to walk up and down steps continually. Whether he would do this by lowering the floor of the main body, or raising the height of the roof in the connecting portion and the floor of this entire section, is a problem which presents many interesting phases. To lower the floor of the main portion would be difficult without destroying the pleasing proportions of the rooms or without hurting the harmony of the mass of the exterior. Whether the height of the roof of the connecting portions could be raised without hurting the mass relations of the exterior I confess I do not know. I think that it could be done.

The cellar at Homewood extends under the whole of the house, including the wings, but contains no features worthy of remark. The foundations are very solidly constructed, and piers and abutments are to be found at odd places that seem hardly justified on casual inspection. There are odd corners and little dark nooks that misinformed people have given the names of "slave dungeons" and "wine crypts" and so on. But with these we have no concern.

The kitchen in the west wing is a large and lofty apartment in which a pan could rattle around very comfortably without making itself heard in any other part of the house. It corresponds in its general



GARDEN ENTRANCE—HOMEWOOD, BALTIMORE, MD.

proportions to the state room in the east wing. Kitchen and state room! These old builders were very practical in every aspect of life and found and set forth intimate relations which we only hint at.

Standing at the point of intersection of the longitudinal and transverse axes of the house, and looking down the line of the longitudinal axis, one is struck by the odd fact that the arches which compose the vista of the hallway here are not centered on the same line. The centre of the hallway of the wing is set back about six to eight inches from the line of the main hall. It is puzzling at first, yet when one reflects that the wings themselves have been set back from the line of the front of the main building so as to make a pleasing general façade, one will see that it follows very naturally that the arch centres of the interior are not all on the same line. Yet it is the fact that the wings have been set back from the line of the front of the house that makes it possible to have the rooms in the connecting portions. Had these wings, and consequently the connecting portions, been not set back, the longitudinal hallway would have run right through the middle of the connecting portions, leaving no room here for the apartments that are to be found.

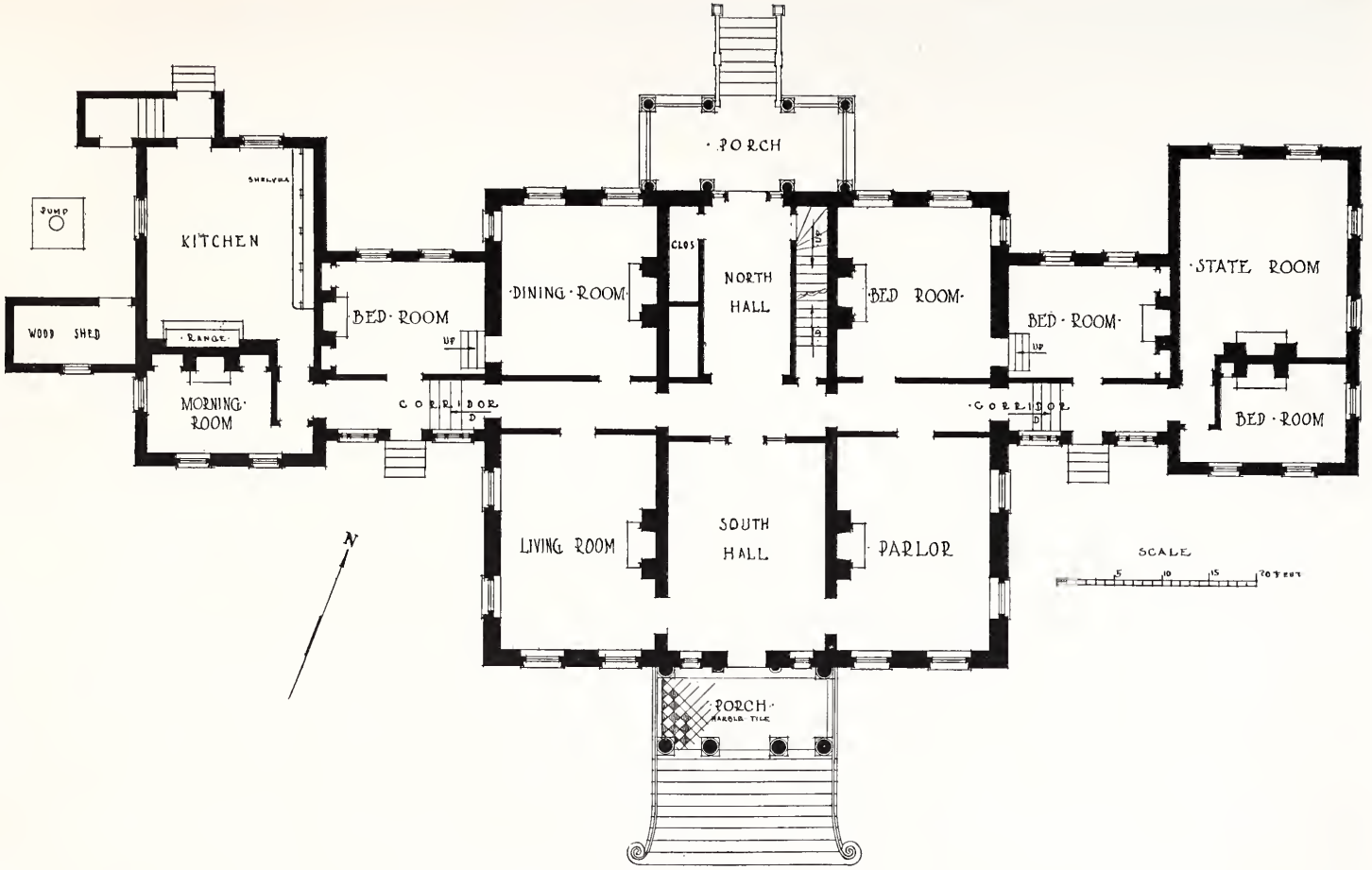
The shape of the arches in the hallway of the connecting portion is also very interesting, following as it does in the beginning the roof line of the house, thus gaining an eccentric curve more akin to a parabola than the arc of a circle.



REAR VIEW — HOMEWOOD, BALTIMORE, MD.



HALL DOORWAY—HOME-
WOOD, BALTIMORE, MD.



PLAN OF FIRST FLOOR—HOMEWOOD, BALTIMORE, MD.
MEASURED AND DRAWN BY JOSEPH V. PHELAN.



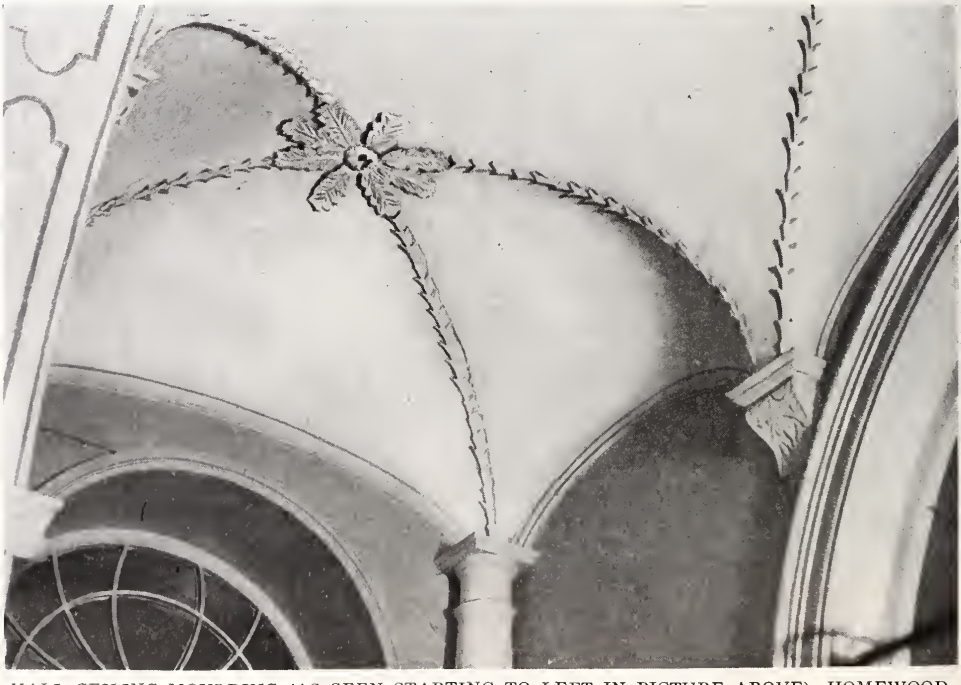
DETAIL OF HALL DOORWAY—
HOMEWOOD, BALTIMORE, MD.



DETAIL OF ARCH—HOMEWOOD, BALTIMORE, MD.



DETAIL OF HALL CORNICE AND CEILING MOULDING—HOMEWOOD, BALTIMORE, MD



HALL CEILING MOULDING (AS SEEN STARTING TO LEFT IN PICTURE ABOVE)—HOMEWOOD, BALTIMORE, MD.



HALL DOORWAY FROM THE FRONT ENTRANCE—HOMEWOOD, BALTIMORE, MD.



LOOKING DOWN LONGITUDINAL HALL OF HOUSE—HOMEWOOD, BALTIMORE, MD.



DETAIL OF CORNICE AND GUTTER—HOMEWOOD, BALTIMORE, MD.

Coming now to a more detailed consideration of the interior of the house, the disposition and arrangement of the staircase which leads to the second floor of the main portion will interest many by reason of its ingenuity and effectiveness. On either side of the main back hall, close to the door which leads to the garden, are two low doors. The left hand one of these gives entrance to a cupboard; the right hand one gives access to the staircase. It is thus plain that no great store was set on the second floor of the house by its builder. The stair to the second floor, however, is very comfortable and easy to tread. The risers are low, the boards are broad, and accompanying the stairs is a hand-rail affixed to the wall in an odd fashion, which easily supports the hand and forearm. Beneath the stairs is a closet which is entered by a door opening on the longitudinal axis of the house.

Standing at the front door, and gazing through the main hall to the back door, one has a very pleasing and beautiful prospect. There is a large arched doorway where a panel wall marks the intersection of the longitudinal hall, and looking through the leaded panes of this, one sees the arch of the back door.

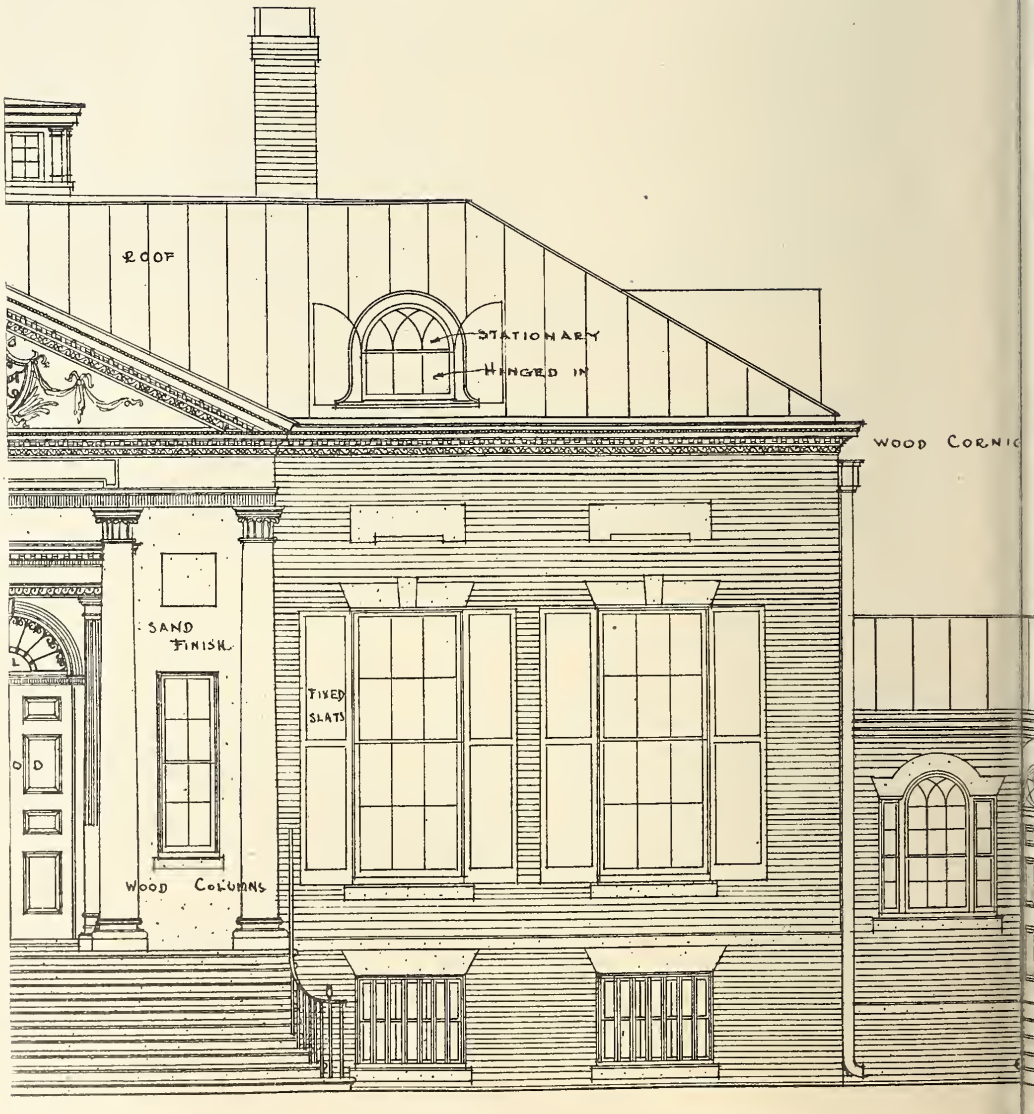
The transoms of these two doors are well worth study. Old "crinkly" glass leaded in is, of course, the material of the construction. The lead ribs are most intricately wrought, however, with a rose pattern and the whole scheme is most enticingly airy and graceful in effect.

Surely our colonial architects knew how to temper severity with grace! The square proportions of the vestibular rooms here and the high ceilings are rather oppressive, yet these arches give the variety of aspect that the whole constructive scheme needs.

Attention has been called (in less technical articles than this) to the massive bolts and hinges on the front and back doors of Homewood. They are indeed most awe-inspiring. The front door key might serve in emergency as a crowbar and a good-sized safe might be made from the metal in the locks.

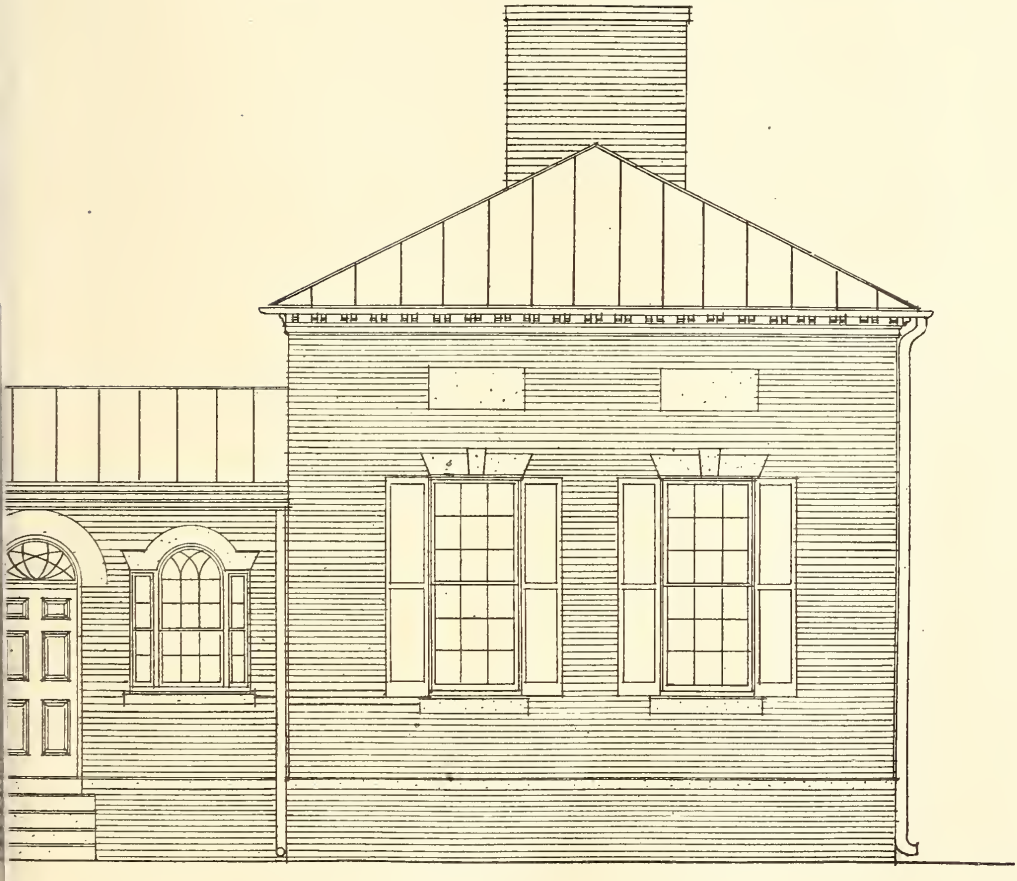


THE MARY BAKER EDDY MEMORIAL, MT. AUBURN CEMETERY, CAMBRIDGE, MASS. EGERTON SWARTWOUT, ARCHITECT.

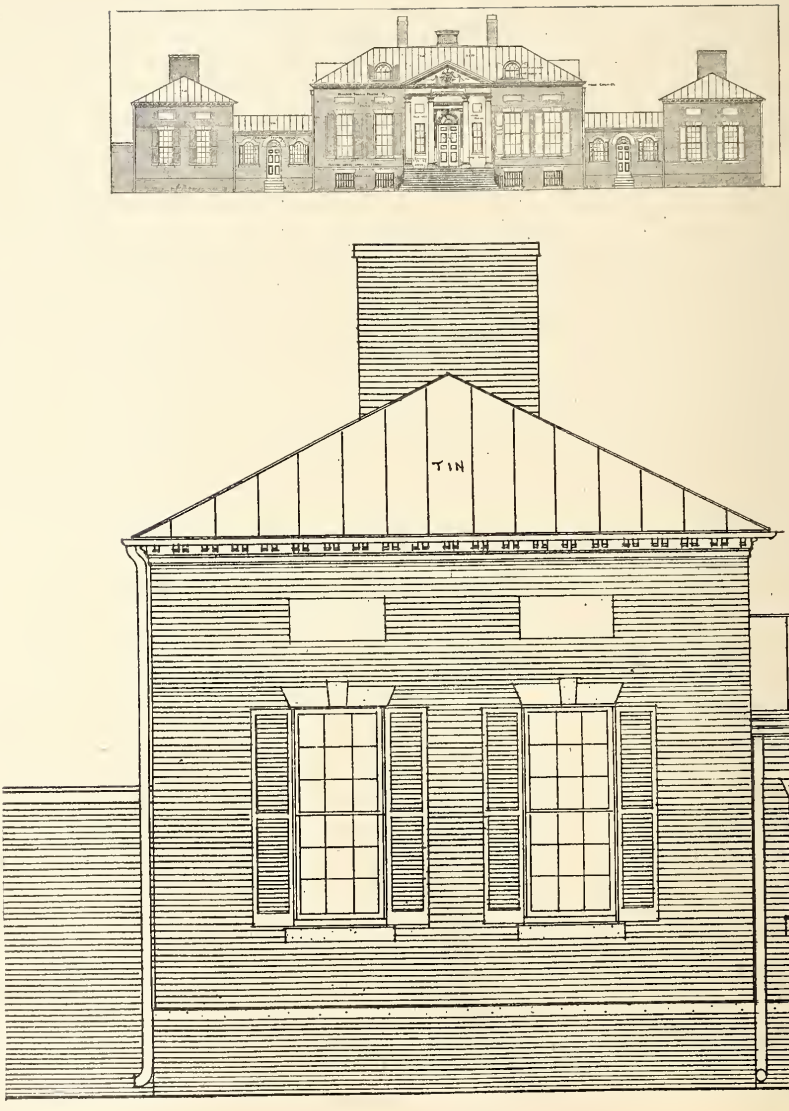


RIGHT HALF OF SOUTH ELEVATION—HOMEWOOD, BALTIM

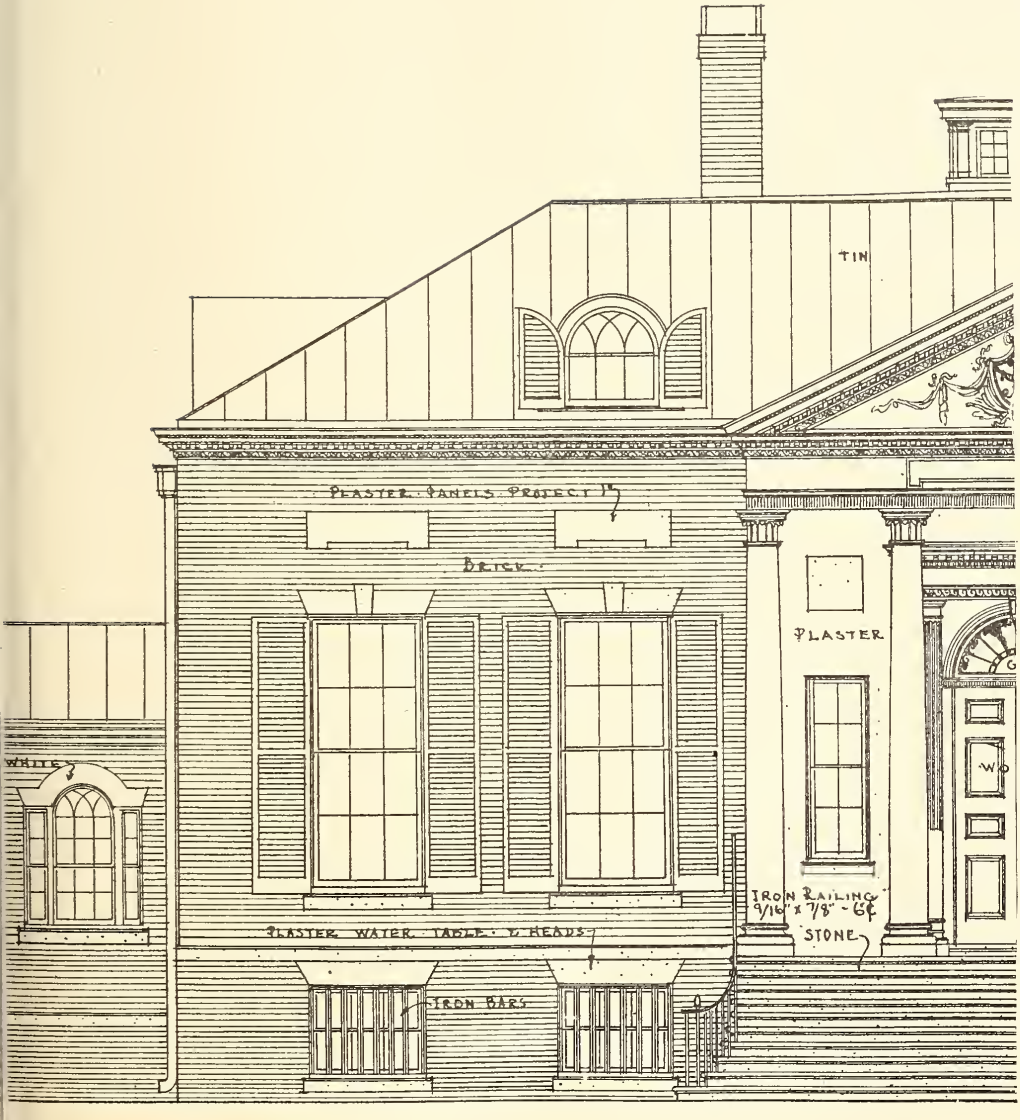




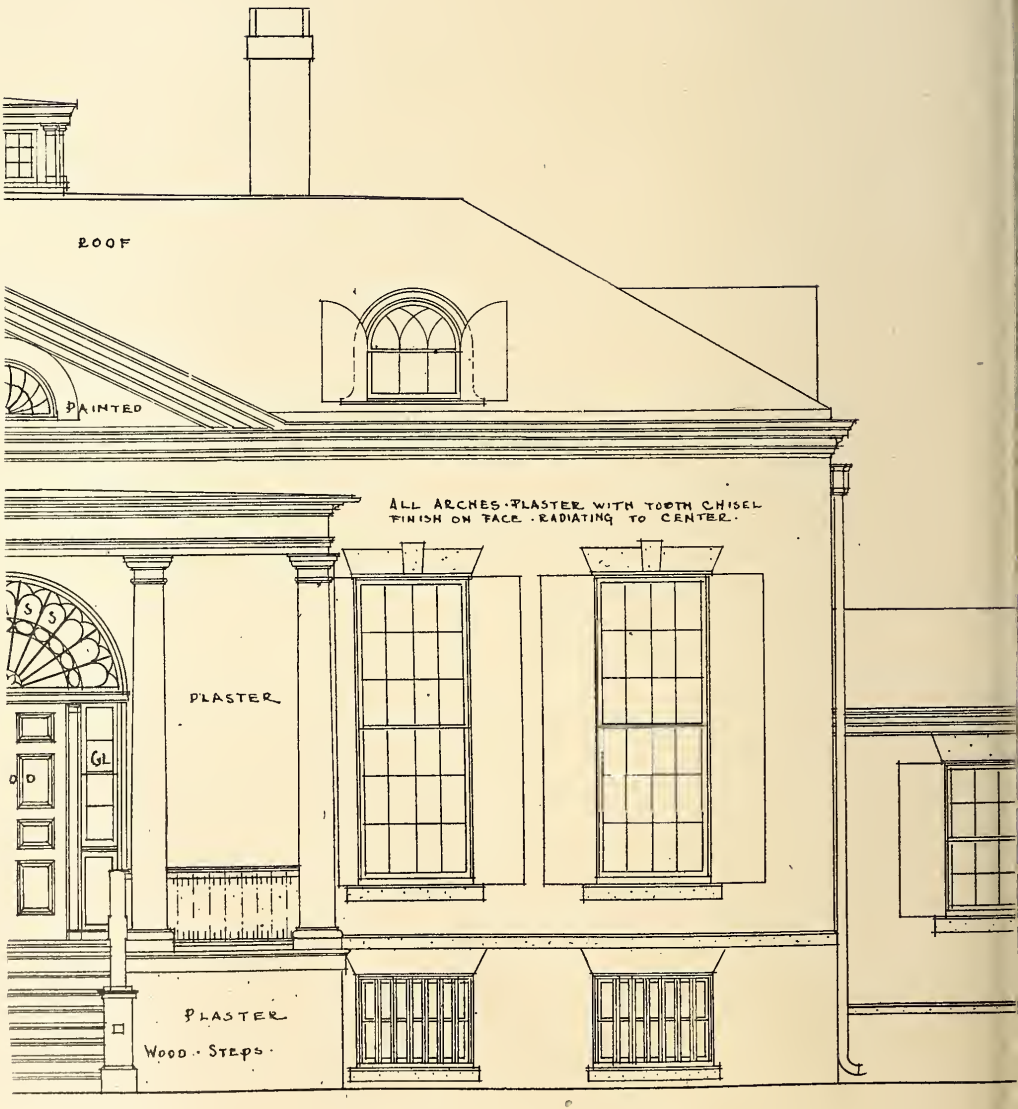
MD. MEASURED AND DRAWN BY JOSEPH V. PHELAN.



LEFT HALF OF SOUTH ELEVATION—HOMEWOOD, BALTI



MD. MEASURED AND DRAWN BY JOSEPH V. PHELAN.

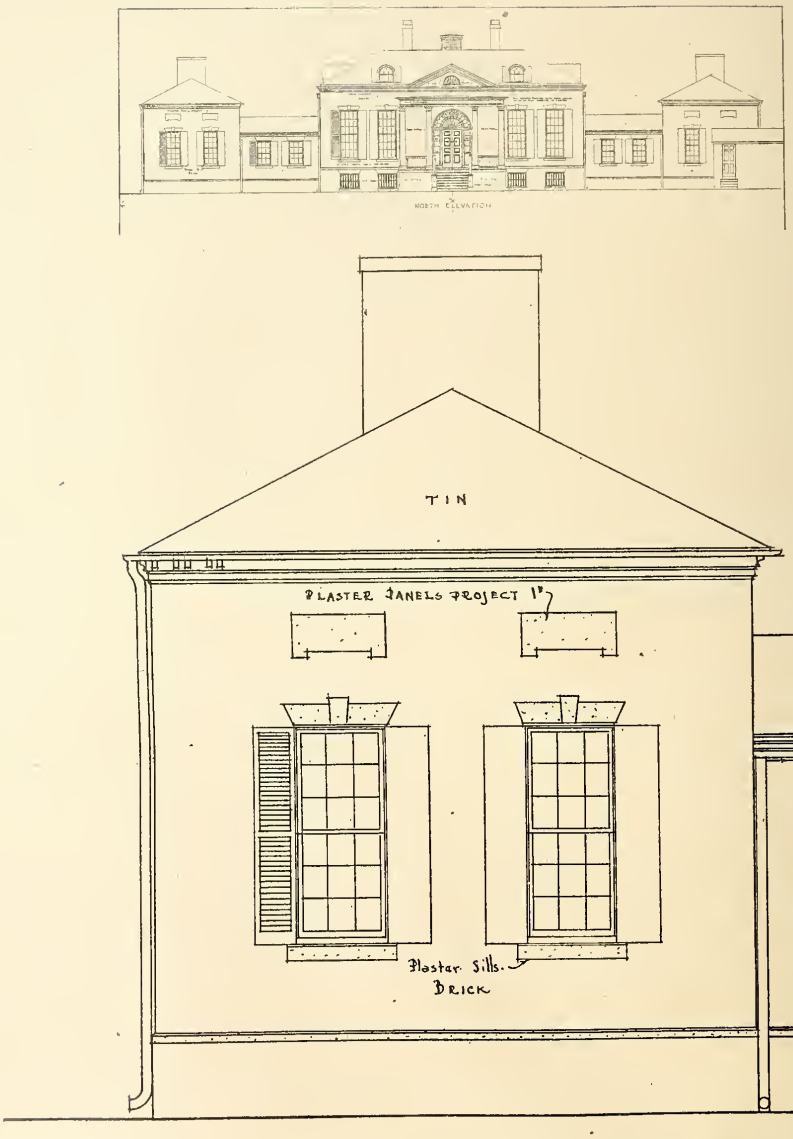


RIGHT HALF OF NORTH ELEVATION—HOMEWOOD, BALT

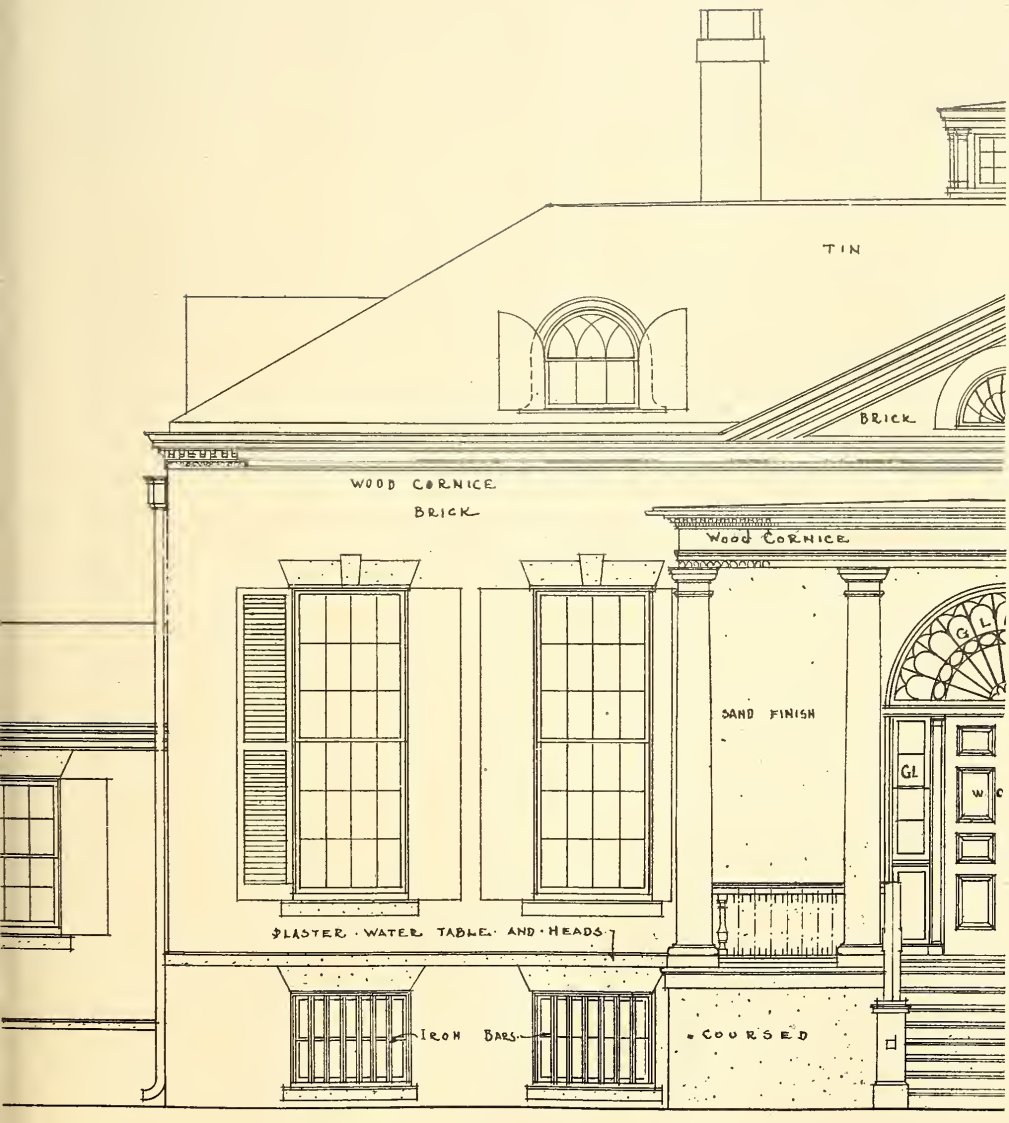




', MD. MEASURED AND DRAWN BY JOSEPH V. PHELAN.



LEFT HALF OF NORTH ELEVATION--HOMEWOOD, BALTI



MD. MEASURED AND DRAWN BY JOSEPH V. PHELAN.



THE MARY BAKER EDDY MEMORIAL

MT. AUBURN CEMETERY CAMBRIDGE, MASS.

EGERTON SWARTWOUT ARCHITECT

AN exquisite bit of architecture is the new memorial to the founder of Christian Science that has been placed in Mt. Auburn Cemetery, at Cambridge, Mass. This New England cemetery is distinctive among American burying grounds, not only since it contains the graves of several well-known Americans—among them Longfellow and Channing—but because it has a kind of stately beauty impossible where graves and monuments are spotted around helter-skelter and crowded together too thickly, as they are in many of our cemeteries. The distant view, half a mile away across the winding Charles, depicts a long, gently rising, low hill, on which the massed foliage ascends from the river to the top, where some individual elms are silhouetted against the sky near the base of the quaint old water tower that rises above the summit.

In this romantic setting, so fitting for a cemetery without being mournful, the memorial to Mary Baker Eddy is perfectly situated in a plot eighty feet square between a road, where it may be seen closely, and a miniature lake at a ten-foot lower level, across which a quarter of a mile away the monument of white granite shows against a background of shrubbery and trees. This background is to be developed later with evergreens and cedars and rhododendrons.

The monument is a round cluster of eight columns, fifteen feet high, supporting an entablature with cresting above, recalling faintly the Tower of the Winds, at Athens. It rests on a broad base with a double flight of circular steps that lead down to a lower platform at the water level. An original scheme; for it has neither roof nor pavement, is simply a screen of columns enclosing a circle which is to be flower-grown with rhododendrons. At each side of the steps are pylons decorated with inscriptions. The platform of the monument, on the side toward the road, is of Pompton pink granite, contrasting well with the white stone of the shafts and steps. Thus, with the photograph, one obtains an idea of the picturesqueness of the

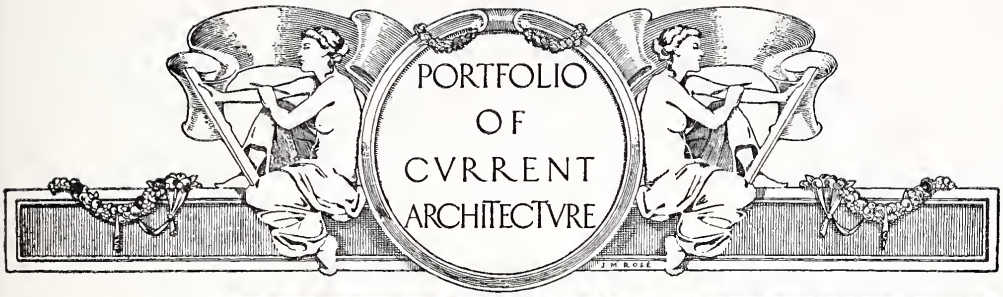
monument, appreciates its simple effect—the curves of the steps harmonizing admirably with the round cluster of columns, the whole enframed and set out by foliage and perfectly mirrored in the quiet lakelet. It is a truly classic achievement that Mr. Swartwout has attained, for besides its severely simple, austere expression, it has that touch of dramatic vitality and richness of details without which no work of art can be said to be truly classic. There is in it none of the dry, cold pendantry, the complacent reproduction of book forms instead of nature forms that too often are foisted upon us as "classic."

A word as to the details of this admirable work. The white Bethel granite was chosen because it is more permanent than marble, but reluctantly, since it was feared that delicate carving would be impossible in granite. Fortunately, long and careful experimenting by Mr. Menconi, the modeler and carver, overcame this difficulty. Methods were devised without the use of machines, except the automatic chisel, which made possible the carving of extraordinary loveliness apparent in the photograph of the panel on page 449. This decoration shows great strength and beauty, fittingly austere and reverent, yet relieved by rare grace of vigorous outlines. Note the contrast of the delicate leaf stems which run in double and triple parallel lines against the full spherical surfaces of the leaves and urn. The granite material brings strength and enrichment to the feminine character of the monument, which is dedicated to a woman. This panel is about one foot high and three feet long. The large lettering on the frieze of the entablature is unusually fine and the smaller inscription is a splendid example of the letterer's art.

Perhaps one may understand something of the spirit evident in the ornament of the memorial when one is told that it is the work of a band of twenty chosen carvers from the north of Italy, who were encouraged to do their best by allowing them to cut their names in among the leaves of the design. If such sympathetic recognition of the craftsman were more prevalent, so also might such unusual work be more frequent.

There are few men who can conceive, like Mr. Swartwout, so strikingly simple a theme as the memorial to Mary Baker Eddy, develop it without any surplus elaboration, and carry it into execution with so much of original detail arranged in bold, severely composed masses enriched with exquisitely flowing, vital growth forms. The work is free, spontaneous and vigorous, of the true spirit of the classic; and one is grateful, indeed, to know that it will have enduring form in a monument, which is, alas, one of the few enduring things in which good architecture finds expression in our hustling twentieth century civilization.

JOHN TAYLOR BOYD, JR.





COYKENDAL MEMORIAL, KINGSTON, N. Y. YORK & SAWYER, ARCHITECTS.



COYKENDAL MEMORIAL, KINGSTON,
N. Y. YORK & SAWYER, ARCHITECTS.



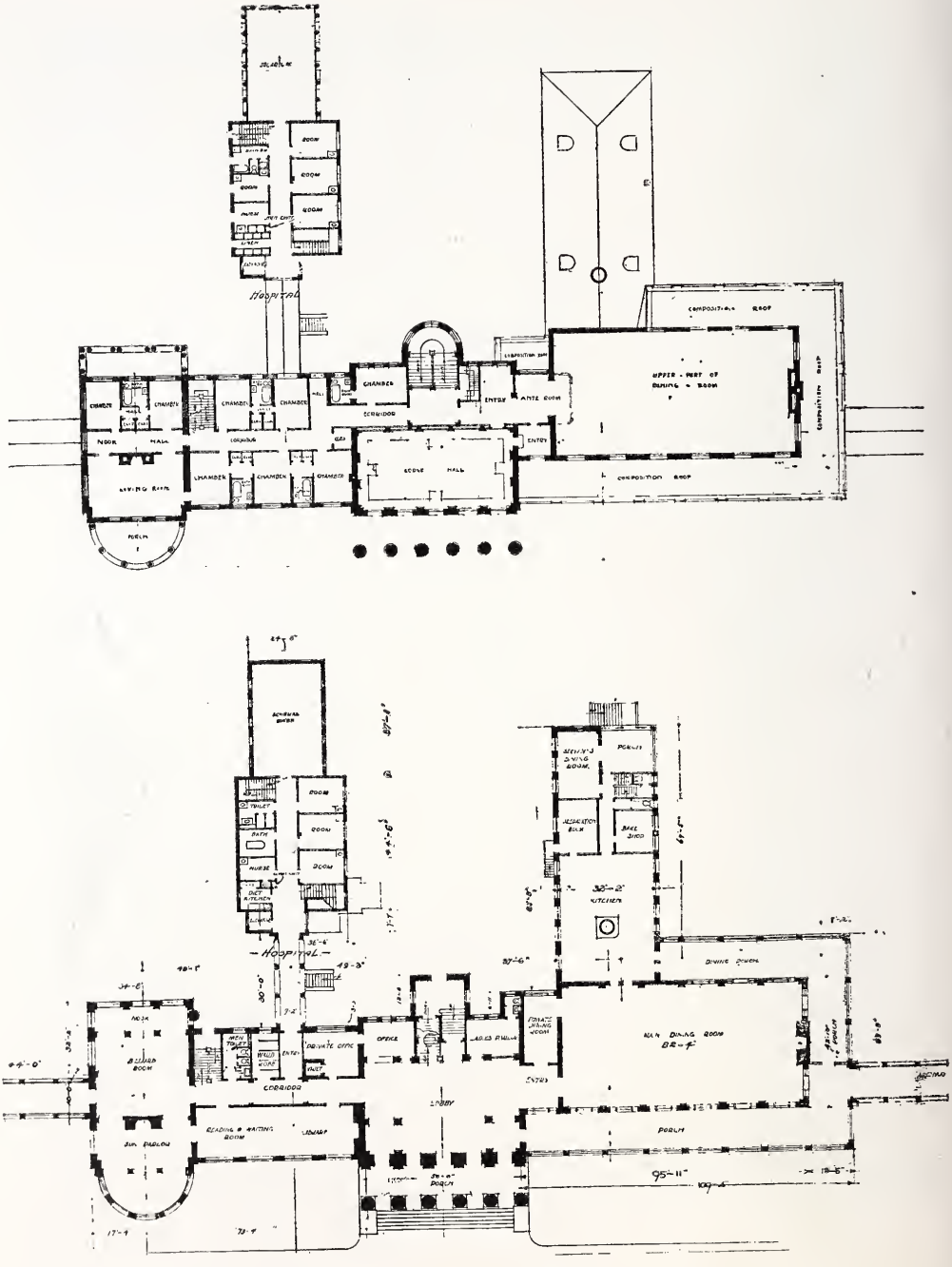
COYKENDAL MEMORIAL, KINGSTON, N. Y. YORK & SAWYER, ARCHITECTS.



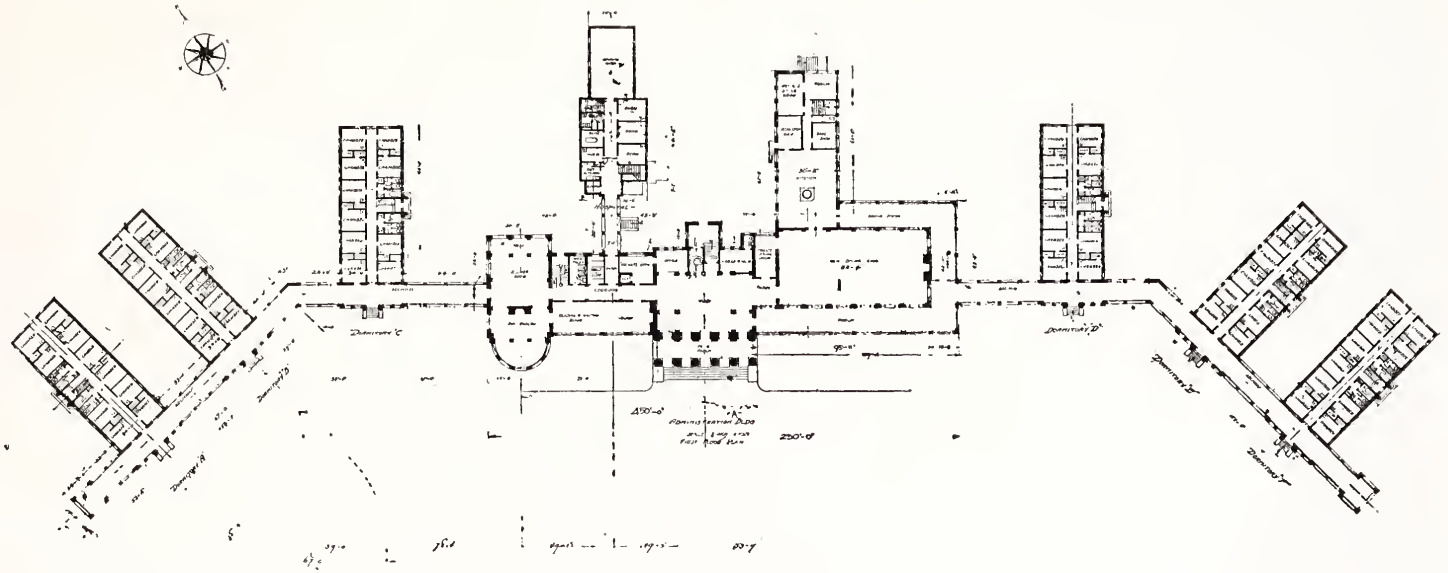
MAIN ENTRANCE—NATIONAL HOME, B. P. O. OF ELKS, BEDFORD, VA. OTTENHEIMER, STERN & REICHERT, ARCHITECTS.



NATIONAL HOME, B. P. O. OF ELKS, BEDFORD, VA.
OTTENHEIMER, STERN & REICHERT, ARCHITECTS.



FIRST AND SECOND FLOOR PLANS—ADMINISTRATION BUILDING, NATIONAL HOME, B. P. O. OF ELKS, BEDFORD, VA. OTTENHEIMER, STERN & REICHERT, ARCHITECTS.



BLOCK PLAN—NATIONAL HOME, B. P. O. OF ELKS, BEDFORD, VA. OTTENHEIMER, STERN & REICHERT, ARCHITECTS.



RESIDENCE OF GEORGE E. IDE, ESQ., LOCUST VALLEY, L. I. JAMES GAMBLE ROGERS, ARCHITECT.



RESIDENCE OF GEORGE E. IDE, ESQ., LOCUST VALLEY, L. I. JAMES GAMBLE ROGERS, ARCHITECT.



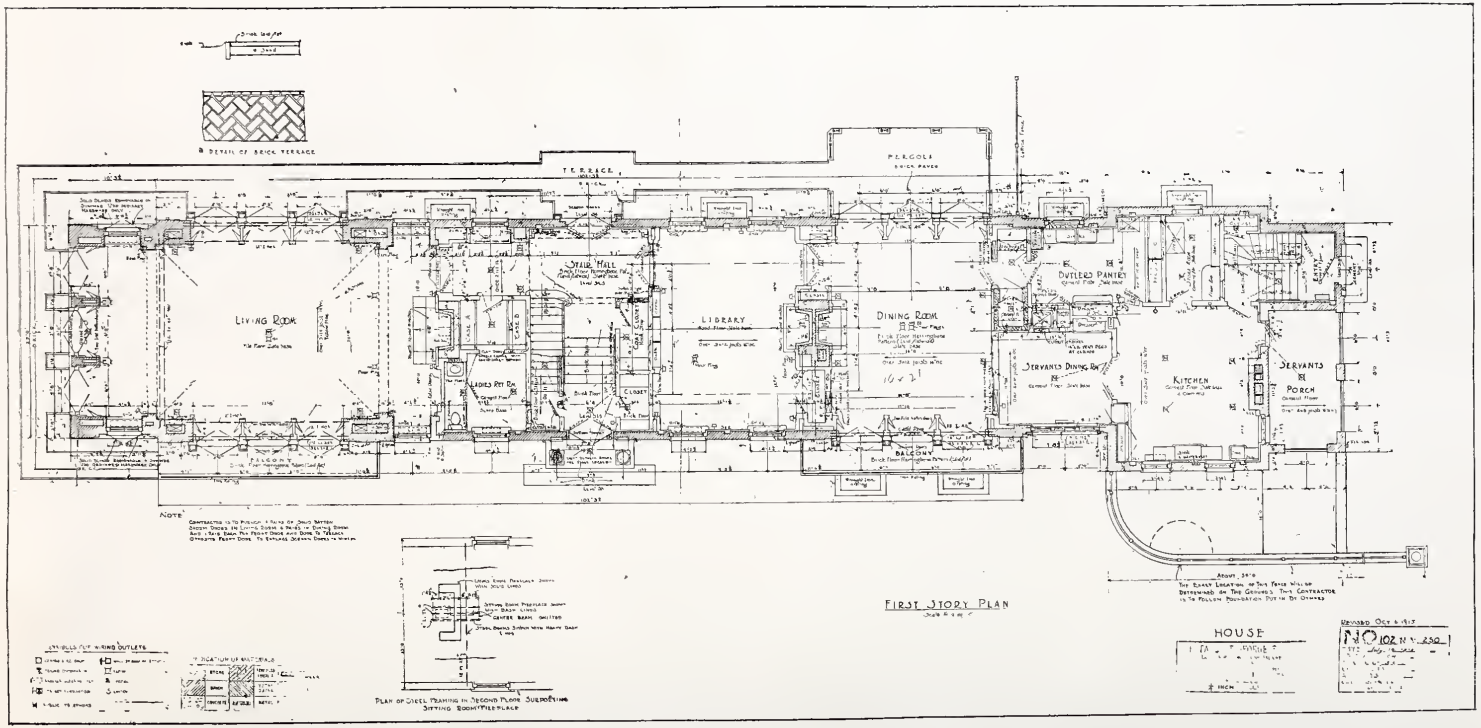
RESIDENCE OF GEORGE E. IDE, ESQ., LOCUST VALLEY, L. I.
James Gamble Rogers, Architect.



RESIDENCE OF GEORGE E. IDE, ESQ., LOCUST VALLEY, L. I.
James Gamble Rogers, Architect.



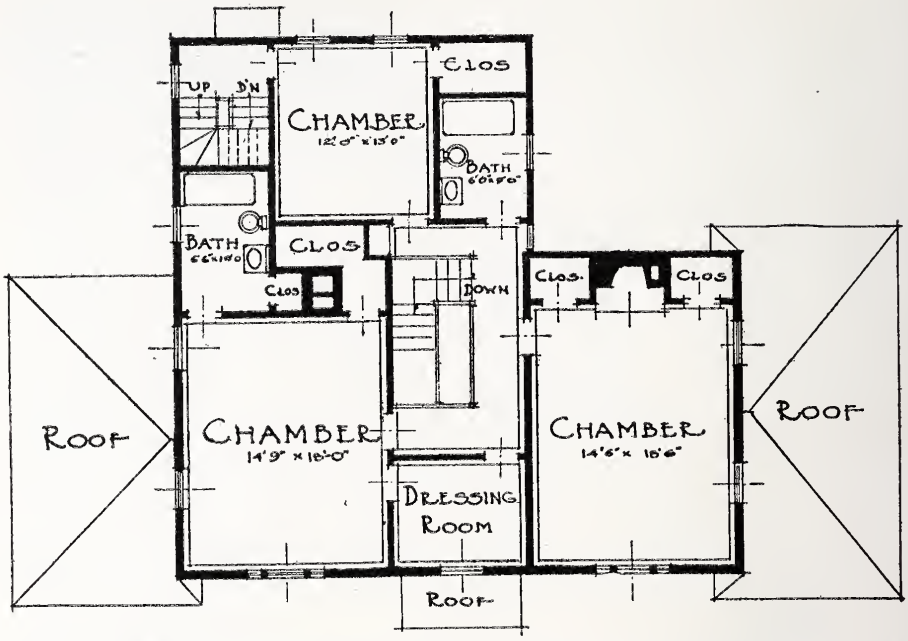
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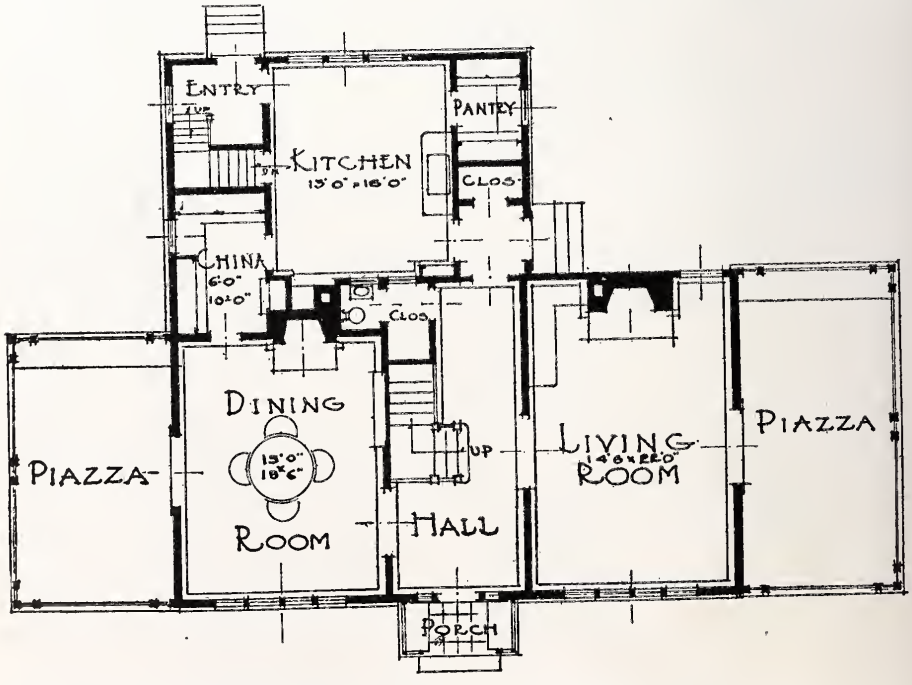
FIRST FLOOR PLAN—RESIDENCE OF GEORGE E. IDE, ESQ., LOCUST VALLEY, L. I. JAMES GAMBLE ROGERS, ARCHITECT.



RESIDENCE OF FRANKLIN R. JOHNSON, ESQ., BROOKLINE, MASS. ANDREWS, JAQUES & RANTOUL, ARCHITECTS.



SECOND FLOOR PLAN—RESIDENCE OF JAMES T. KELLEY, ESQ., PHILLIPS BEACH, MASS.
(James T.) Kelley & Graves, Architects.



FIRST FLOOR PLAN—RESIDENCE OF JAMES T. KELLEY, ESQ., PHILLIPS BEACH, MASS.
(James T.) Kelley & Graves, Architects.



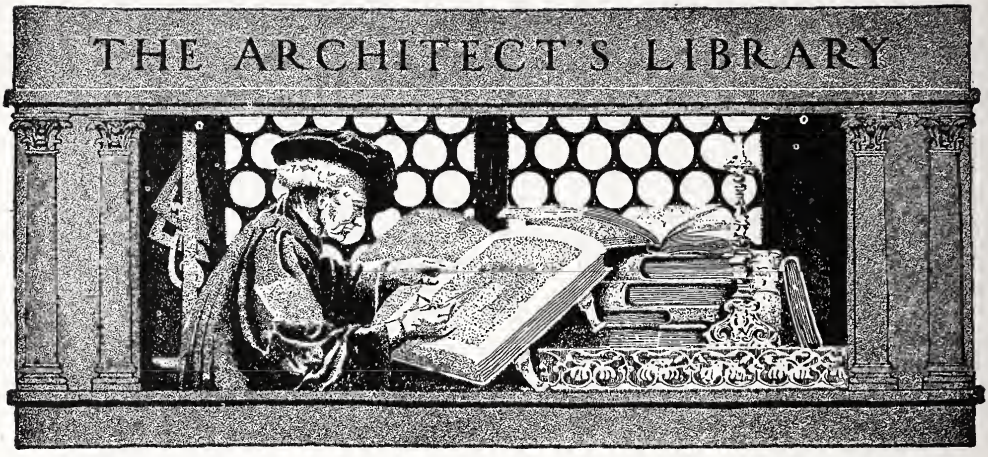
RESIDENCE OF JAMES T. KELLEY, ESQ., PHILLIPS BEACH, MASS. KELLEY & GRAVES, ARCHITECTS.



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RESIDENCE OF JAMES T. KELLEY, ESQ., PHILLIPS BEACH, MASS. KELLEY & GRAVES, ARCHITECTS.



PORTER'S "LOMBARD ARCHITECTURE"

By A. D. F. HAMLIN

THE Yale University Press has within the last few months issued two of the four projected volumes of a work on Lombard Architecture* by Mr. Arthur Kingsley Porter. Volumes I and III have yet to appear, but volumes II and IV, already in hand, constitute in themselves so important a contribution to learning and to architectural literature as to warrant a preliminary notice, without waiting for the completion of the work.

Mr. Porter first became known as a writer on architecture by his "Mediæval Architecture," published in two volumes in 1909 by the Baker & Taylor Company. While parts of this work betrayed a certain immaturity, it was, in the main, a valuable contribution to the knowledge of French medieval architecture, its bibliography and lists of monuments being remarkably complete, detailed and scholarly. Two years later Mr. Porter published a slender volume on "The Construction of Lombard and Gothic Vaults," whose importance was out of all proportion to its modest dimensions, and which embodied the first fruits of his study of the churches of Lombardy. This book received warm commendation from Mr. W. H. Goodyear in the American Architect, as throwing new light on the origins of the French Gothic ribbed vault. The studies in Lombardy, thus begun, Mr. Porter continued to prosecute through a period of six years (1908 to 1914), during which about half his time was spent in Lombardy itself, a large part of the remainder in various libraries in Europe and the United States. Since his return to this country in 1914 he has been occupied with the writing and publication of the monumental work which is the subject of this notice. While in Italy he contributed frequently to *Arte e Storia,* an Italian archeological journal, upon his investigations of little known Lombard churches, and the two recently published volumes are a part of the final fruitage of these studies.

Volume II comprises the first half of a descriptive, historical and bibliographical list of Lombard churches, arranged alphabetically in the order of their locations; this list to be completed in Volume III. In its 675 pages it treats of 136 churches in 85 towns and cities, from

*Lombard Architecture. By Arthur Kingsley Porter. Vol. II—Monuments: Abbazia di Albino to Milan. Vol. IV—Atlas. New Haven: Yale University Press, 1915-1916. 675 pp.; 244 plates.

Abbazia di Albino to Milan inclusive. The discussion of each monument follows the same system of five divisions. The first is devoted to a summary of the bibliography of the monument; the second discusses the history of the edifice as set forth in documents and inscriptions; the third describes the building in both its original and its present form; the fourth deals with its decorative and architectonic details, and the fifth summarizes the author's conclusions as to the style and date of the building.

The amount and quality of scholarly research displayed in these one hundred and thirty-six descriptions are really astonishing. Mr. Porter has wherever possible gone to original sources, and he quotes liberally, giving both the original Latin or Italian and English translations, from ancient inscriptions, monastic charters and medieval histories, comparing authorities and evidences, to an extent that is amazing as the result of only six years' work in Lombardy; yet this volume contains but half of the entire list of monuments. Moreover it is to be accompanied by a fourth volume (to be numbered as Vol. I), presumably to be a critical and historical discussion of Lombard architecture in general, all based upon the investigations of these six years.

Volume IV is a folio, or rather a portfolio-box, containing 244 large plates, mostly of half-tone photographic views of Lombard buildings or details, with a number of plans, elevations and sections of some of the more important churches described or to be described in the text. The plates are all numbered, as well as the illustrations on each plate; the key to their identity is found in an index inclosed with them, which shows that they are arranged alphabetically to correspond with the alphabetical arrangement of Vols. II and III. It is most unfortunate that the illustrations were not themselves labeled, as the process of identification by index or text detracts materially from the convenient use and study of the examples they offer to the eye.

This is the only fault the reviewer can find in what is unquestionably the most important original contribution thus far made by American scholarship to the history of medieval architecture, and the most important addition made as yet by a scholar of any nation to the world's knowledge of the very important architecture of Lombardy. It is based not only upon original documents, but in large measure upon the author's own personal study of the monuments, a considerable number of which have never been published before. The fullness and detailed character of Mr. Porter's documentation of the subject are extraordinary, and reflect a quite new lustre on American scholarship. A more complete and critical appraisal of this work must await the appearance of Volumes I and III, which we may hope for within a month or two.

[*Volumes I and III were received just as this number of the* ARCHITECTURAL RECORD *was going to press.*—ED.]

Books Received from Publishers.

Transactions of the New York Electrical Society. Contains: Wireless Transmission Problems, by M. I. Pupin; The Electrically-Driven Gyroscope and Its Uses, by Elmer A. Sperry; A Month with the Atlantic Fleet, by Frank Sprague; The Submarine, Its Status Today and Its Possibilities in the Near Future, by Simon Lake. 25 ills., 7 diagrams, 58 pp., 6 by 9. New York: New York Electrical Society.

A Monograph of the Work of McKim, Mead and White, 1879-1915. Part XIII. 20 pp., 20 pl., 14 by 20. New York: The Architectural Book Publishing Co.

David Edstrom and His Sculpture. 31 pp., 8 by 10½, 24 ills. Printed at The University Press of Sewanee, Tennessee.

Marbles: British and Foreign Marbles and Other Ornamental Stones. By J. Watson, 485 pp., 4½ by 8. New York: G. P. Putnam's Sons, as the American representatives of the Cambridge University Press of England. Price $1.50.

The Development of British Building Construction. By C. F. Innocent. 73 ills., 294 pp., 6 by 9½. New York: G. P. Putnam's Sons, as the American representatives of the Cambridge University Press of England. Price $3.25.

American Art Annual, Vol. XIII. Edited by Florence N. Levy. 80 ills., 502 pp., 8¾ by 5¾. Washington, D. C.: The American Federation of Arts.

BOOKS ON COLONIAL ARCHITECTURE

By RICHARD FRANZ BACH

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Part V.—Furniture and Furnishings (Continued)

OUR fourth class of publications dealing with Colonial furniture has to do with books devoted to an individual type of piece or else with an individual craftsman. Curiously enough, only the American clock, of all our early furniture types, has been given separate treatment. A thoroughly interesting book is that by N. Hudson Moore entitled *The Old Clock Book* (Octavo; pp. xi + 339, many ills. New York; Frederick A. Stokes Company; 1911. $2.50). Of this the major portion is devoted to early American clocks and Colonial clock makers, subdivided by states, with plentiful attention to the Terrys and Thomases and Willards and their attractive chronometers. Other chapters concern all sorts of early time keepers, dials and the like, table clocks, early watches and long case clocks, with some mention also of English and Scottish makers. There are also annotated alphabetical lists of American and of English clock makers.

Much of interest in regard to this branch of Colonial activity in the crafts will be found in Henry Terry's *American Clock Making, Its Early History and Present Extent of the Business* (Octavo; pp. 24 and 2 plates. Waterbury, Conn., J. Giles and Son; 1870. Out of print), and in Chauncey Jerome's *History of the American Clock Business for the Past Sixty Years, and Life of Chauncey Jerome, Written by Himself* (Duodecimo; pp. 144. New Haven, Conn.; J. C. Dayton, Jr.; 1860. Out of print), but neither of these volumes is concerned to any appreciable extent with the artistic side of clock making. A fine monograph on Simon Willard, best known of our Colonial clock designers, is that by John Ware Willard, published under the title *A History of Simon Willard, Inventor and Clockmaker,* together with some account of his sons, his apprentices, and the workmen associated with him, with brief notices of other clock makers of the family name (Quarto; pp. vi + 132, 19 text illustrations and 38 plates. Boston; privately printed; 1911. $5). This book reads like the account of a family school of craftsmen of five or six hundred years ago, more or less what might be found in a family history of the Cosmati mosaicists of the Middle Ages or of the Della Robbia ceramists of the Renaissance. The fascination of the account is, however, much reduced by the genealogical character maintained throughout. Nevertheless the book is a good one; it provides, above all, a final and absolutely reliable guide to the craft and style of an important man and his followers and it takes its place with two other works of similar intent but of better text results, namely, Frederic William Hunter's *Stiegel Glass,* reviewed in a preceding issue of the Architectural Record, and *The Woodcarver of Salem,* the splendid work on Samuel McIntire, recently published by Frank Cousins and Phil M. Riley.

It is unfortunate that space and the necessary order of presentation undertaken in the preparation of these papers on the literature of Colonial Architecture have prevented us from publishing until this time a notice of one of the most careful studies in the Colonial field that have thus far seen the light; we refer to the fully illustrated biographical study of the life of Samuel McIntire produced in collaboration by Frank Cousins, long known to architects as an expert photographer of Colonial work, and Phil M. Riley, architect, under the title *The Wood Carver of Salem, Samuel McIntire, His Life and Work* (Imperial octavo; pp. xx + 168 and 127 plates. Boston; Little, Brown and Company; 1916. No longer

available). A good test of the value and appeal of this work is to be seen in the fact that the edition of nine hundred copies, which was printed from type, the latter being at once distributed, was more than subscribed for before the publication date. This volume presents in seven chapters a detailed study of the work of McIntire as an illustration of the highest type of craftsmanship developed in New England, and with this as a point of departure it is a gratifying task to gauge the degree of ability and knowledge of the design and technique of their craft on the part of the many other carpenter architects whose work finds so great a following in New England today and upon whose achievements so many results in modern Colonial derivatives have been based. A preliminary discussion carefully describes and characterizes the old time architecture of Salem, the residences and other buildings favored by the so-called codfish aristocracy of another day, and whose stylistic expressiveness and charm are to be rated as equivalent to the best in history when judged from the standpoint of autochthonous growth. Of this development of indigenous materials and means, this taking advantage of local conditions and forcing unfavorable circumstances to his bidding, the life of Samuel McIntire was a notable illustration.

McIntire was born, lived his life and worked in and about Salem alone, yet at no time descended to the level of a provincial handling of tools or materials. As a master craftsman he seemed to be able to rise above the least vestige of pettiness, and his carving throughout, whether broadly applied to buildings of his own design, or as illustrated in the least of the fanciful carved wood objects that came from his hand, proclaims as its chief characteristic a breadth of conception and an easy strength that denote the creative artist. To quote the authors: "As a designer McIntire stood second to none in America. We find even our foremost designers of the present day and students of things Colonial sitting at the feet, as it were, of this master craftsman of a century ago—this man of the chisel, the plane and the saw—whose workroom was graced by no institutional diploma, yet who by his rare skill in the use of tools and his innate good taste demonstrated the beneficial influence of a sympathetic relation and intimate working knowledge between artist and artisan. Obviously the man who can execute his own designs in a superlative manner becomes potentially the greater designer, and so with McIntire. He realized both the extent and the limitations of his medium; likewise he appreciated the capabilities of his men and knew by actual experience the restrictions imposed by even the best tools available in those days. And with this knowledge he had the clever common sense never to court failure by attempting to exceed the confines of either."

It is obvious that an artist or artisan to whom so many works are attributed, even if we make a liberal discount for the natural tendency on the part of most of us automatically to attach works of art to great names, as it were, could not possibly have brought them into being without maintaining a large workshop or *bottega,* so that we must allow for the existence of many a carver now nameless whose work is the wonder and awe of our most serious students and designers. Again, we must expect on the part of a craftsman so much in demand an occasional resort to easier methods, substitutes for time-worn processes that made too great inroads upon his time. We note, therefore, his use of *compo,* under which name the material so freely adapted for interior work by the Adam brothers came to be known in English decorative art. This material, also known as French putty, or simply as stucco, was prepared from casts or molds, and made possible at but small expense of time and labor the production of the finest modeled detail. This was glued in position and painted, and, what with its precision and delicacy, readily simulated wood carving when placed at even a short distance from the eye.

There are those who have come to regard McIntire as the foremost of our Colonial architects, and against these are arrayed the critics who consider him no more than a clever carver and builder, and deserving of no mention as an architect. It may be said that such persons

place a quantitative valuation upon buildings and their design, and consequently retain the concrete conception of architecture favored by the contractor rather than the esthetic ideal of design proper as conceived by the architect. " . . . to infer that he cannot be regarded as a great architect because of the trifling fact that all of his houses were of the three-story square type and built in the vicinity of Salem . . . betrays a woeful ignorance of the written records regarding the man and his accomplishments. . . . To say that he is our foremost Colonial architect of domestic buildings is a strong statement, indeed, yet what other designer of this period did so much work as well? To dispute that in this field McIntire's eminence equals that of Bulfinch in public buildings presents a task which one may well hesitate to attempt. That few encyclopedias and library catalogues even list his name and only fugitive references are to be found in books of Colonial architecture belittles his work not at all. Unlike Bulfinch, who had a daughter to collect, preserve and publish most of the papers (of) her father, . . . McIntire had no one to herald him upon his death, with the result that the facts have become buried in the old records of Salem and no one has taken time and trouble to dig them out. . . . Yet, despite the oblivion into which his life had passed, the beautiful, refined architecture of Salem and vicinity as planned, designed and hand tooled by McIntire with the assistance of his relatives, stands as an enduring monument which requires no written eulogy, for it is known through the medium of photographs to fully a thousand prominent architects in all parts of the country who have admired, studied, and adapted its splendid motives and superb detail to their needs. . . . McIntire proved his versatility by his public work, . . . his activities in this as well as in the domestic field were confined to Salem" and its immediate neighborhood, "and therein lies much to his credit." It is for the most of us a decided surprise that McIntire submitted plans for the National Capitol and, of course, shared with his compeers, Bulfinch and Latrobe, the disappointment of failure when Dr. Thornton's scheme was favored, although he did not share with these designers the honor of contributing to the growth of the building, chiefly because of his death at a time when Latrobe was still in charge. Had he lived, it is reasonable to assume that he also would have had an active part in its completion and arrangement. There is much else in the volume concerning the old Salem wood carver, written in the same vein of sane appreciation and without approximating the weakness of adulation which so readily creeps into biographical accounts.

Individual chapters are devoted to doorways and porches, to interior woodwork, to mantels and chimneypieces; in view of their individual importance as comprehensive examples of Samuel McIntire's manner and ability separate chapters are also assigned to detailed treatments of the Cook Oliver House and the Johannot Pierce Nichols House, both in Salem. A separate chapter is likewise given to the discussion of McIntire's public work, which latter was much more extensive than is generally known. The volume is thoroughly well illustrated with photographs taken under Mr. Cousins' direction during several decades. The reproductions are remarkably clear and the choice of significant subjects has been well managed. *The Wood Carver of Salem* is an excellent contribution to the literature of Colonial architecture.

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Northend, Mary Harrod. Colonial Homes and Their Furnishings. Crown octavo; pp. xxi+252 and 117 plates, index. Boston; Little, Brown & Company; 1912. $5.

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The Story of the Newark Copy of the Colleoni.

The dignified and distinguished equestrian statue in Venice known as the "Colleoni" has for centuries been considered a rare example of sculptural proportion. It is not strange that it has influenced the composition of many equestrian memorials, both in America and Europe.

The story goes that Andrea Verrocchio, the sculptor who conceived this masterpiece, died before the statue was completed in bronze. The Venetian Government entrusted the reproduction of his model to one Leopardi. Leopardi had the effrontery to engrave his own name on the girth of the saddle. Consequently, by some historians he is accredited with the entire work. The unquestionable fact is that Verrocchio was the author of the statue, and he undoubtedly left a design for the pedestal. I am sure every sculptor will agree with me that the statue and pedestal were conceived by the same mind.

I shall never forget the impression this monument made upon me when I first saw it in the little square of the Piazza of SS. Giovanni e Paolo. I came upon it quite unexpectedly one day. It is a glorious symbol of reserve power, and is nobly posed. The marble pedestal is delicately carved, and yet is full of strong architectural lines and is massive in outline. I was so much impressed by it that I could not leave the place for hours.

The thought that ran through my mind was that, as modern portrait painters spend months copying the famous pictures by Velasquez at Madrid, a sculptor might improve his own art and serve the world by making a copy of this masterpiece.

Such a task I knew would entail a great expense, and I wondered if it were not possible that some one in America would care to present a copy of this statue, as a standard of monumental decoration, to one of our prosperous cities.

Some years elapsed before I had an opportunity to sow the seed of this thought, but during that time I collected a number of large photographs of the monument and other valuable details which I will refer to later.

One summer's day, on the golf links at Deal, N. J., when Mr. Christian W. Feigenspan, Mr. John Cotton Dana and myself were struggling to master the royal and ancient game, the conversation drifted to the subject of a generous bequest made to the city of Newark by one of its successful business men, Mr. Amos H. Van Horn. He had just left one hundred and fifty thousand dollars to erect monuments to Washington and Lincoln and to the dead soldiers and sailors of heroic tradition. Mr. Feigenspan said that Mr. Van Horn's example made business men like himself stop and think whether it were not the duty of every citizen of large fortune to do something similar to help beautify his city. Mr. Dana, who is so well known because of the work he is doing to educate the public through the library at Newark, received this idea with enthusiasm and asked me if it would not be a good thing to reproduce one of the fine old masterpieces of Italy, so that the masses of the people would be able to see and feel the influence of one of those noble works. He thought it would increase their civic pride. The "Colleoni" was spoken of as a fit subject.

On our return to the club house, Mr. Feigenspan, to my surprise and delight, made the generous offer to present a copy of the "Colleoni" to Newark, duplicating it in the original materials of bronze and marble. He made his offer contingent upon the success of an old friend of his, a gold miner, whom he had just staked in a mining venture in Rhodesia, South Africa. Fortunately for Newark, a year later, the miner unexpectedly came home one day with more money than either Mr. Feigenspan or he himself had ever dreamed of reaping from such a source. So my dream was to be



COPY OF THE COL-
LEONI, NEWARK, N. J.



THE COLLEONI, IN VENICE,
BY ANDREA VERROCCHIO.

realized. The "Colleoni" was to be built and given to America.

The next morning I called on the Director of Art at the Metropolitan Museum, New York City, eager to tell him of this stroke of good fortune. In the main Court of Sculpture of the museum there is a cast of the famous statue. I told the director it would, of course, be necessary for the museum to give me the right to make a piece mould of the plaster cast. To my astonishment this gentleman said, coldly but politely, that there would be no use of my applying to the Board of Directors for permission to take this mould, as he would certainly advise them to refuse it, on the ground that the statue would in such a case have to be covered up for at least six weeks and the court would necessarily be in disorder during that period.

Disappointed in my first step, I made up my mind, as I walked away from the museum, to take the train that night for Chicago and tell my story to the Director of the Art Institute there, where I had seen a very fine cast of the statue. In Chicago, Mr. Newton Carpenter listened with great interest, saying that the institute would do everything possible to assist me in my work. He accompanied me to the superintendent's office, where I made the necessary arrangements to begin the piece-mould the very next day.

Besides the two already mentioned, there is in America one other plaster cast of this statue; it is in the Boston Art Museum. They were all reproduced from a mould made by the Royal Museum of Berlin, under permission from the Italian Government, in 1850. This mould was made from the original statue at Venice. Thereupon a cast was purchased by Great Britain and the entire monument was reproduced in staff, which was the most striking feature in the great exposition at the Crystal Palace, London, in 1851.

The encouragement I received at the Avery Library, Columbia University, when searching for measured drawings of the pedestal, was a delightful experience after the disappointment at the Metropolitan Museum. The drawings and full-size details of the pedestal by Despany and others were closely compared, including a careful study by an American student, Mr. William S. Aldrich.

As the pedestal is some twenty-seven feet high, with a statue of approximately fifteen feet rising above, it can readily be understood why it was decided to make a full-size plaster model of it. That was the only means of capably judging and studying the proportions of moldings, columns, capitals, frieze and bases. My friend, Mr. Albert R. Ross, architect of so many beautiful pedestals, criticised the full-size details for this model and called at the studio many times to watch the progress of my work. When completed, this model was shown to a number of prominent architects, and many a time during these interesting consultations the remark was made, "I wonder if the donor fully realizes how much he is doing for art in this country, by this generous gift."

Fortunately, on previous visits to Italy, I had procured squeezes or moulds, taken from the original monument, of the most important decorations, including the bronze frieze, capitals, and two of the heraldic side panels, which proved invaluable when executing the large model.

This large model, when completed, became the guide for the marble carver. The commission was given to a marble company in Georgia, at whose quarry we found choice silver gray blocks of marble of just the right coloring to reproduce, as nearly as possible, the effect of the original. My visits to the quarry were seasons of pleasurable cooperation.

The statue was cast in the cere perdue process. This method enabled me to retouch the group in wax before casting it in metal. Mr. Bertelli's help in formulating a secure plan of balancing the horse and rider on the marble plinth by the three hoofs was invaluable.

Now that the work was nearing completion, the selection of a suitable site in Newark became the next problem. Experience has taught me the advisability of facing a monument towards the southwest, so that it will receive the best light during the greater part of the day; but it was difficult to convince the city authorities of this. Fortunately, Prof. Laird, of the University of Pennsylvania, was called to Newark on another matter in connection with the city's decoration, and with his assistance, as he readily understood my point of proper lighting, the small triangle known as Clinton Park was chosen, giving the reproduction a background almost similar in character to that of the original at Venice.

Having realized my dream, it has been a great satisfaction to receive many letters of congratulation from almost every State in the Union. Also is it to be noted that generous appreciation and marked civic pride in the work have been shown by the citizens of Newark.

J. Massey Rhind.

Lord Chesterfield's Renaissance Façade.

We cannot help feeling a little sceptical about the good old times, referred to in the March issue, "when every man of breeding was supposed to be well-grounded in the art of architectural design"—unless the superiority of those days is claimed only for a very limited class. Nowadays, the world is full of amateur architects: some well-bred, many illiterate, and all possessing that little knowledge which is not only dangerous, but is often a fatal handicap to the designer who is compelled to defer to their wishes. We pity Lord Chesterfield's architect, if his advice to his son conveys any definite suggestion as to how he would have had the façade of his town house designed. Each story, illustrating a different order—columns superimposed on columns, a Tuscan basement and a Corinthian attic, the Doric and Ionic orders thrown in between—the result would be as atrocious as the downtown post office. But it would have solved the modern problem of the limitation of high buildings. Five orders, five stories; unless we started all over again.

Anyway, we agree with Lord Chesterfield that such a fabric would seize the most incurious eye and stop the most careless passenger. If he stopped in time, he would probably go round some other way. The best efforts at design are usually obtained when the client knows only that he is unfitted to pass upon their merit and relies on the judgment and skill of the architect entrusted with the work.

C. W. Fairweather.

The Second Coming of Art.

Architects who are not too deeply immersed in the details of their profession should read with interest the essay of Mr. Ralph Adams Cram on "The Second Coming of Art," in the February number of the Atlantic Monthly. Here they will be met with a thesis of colossal breadth, in which the author, with characteristic boldness and dramatic force, lays down not only the whole future of art, but of the world itself. Mr. Cram foresees a new era, and he looks upon art as but a detail, "not a product, but a by-product."

Too much quotation is detestable, and it would be futile to condense the essay further, since, as Mr. Cram says himself, he has already boiled down volumes into a few pages. Briefly, the thought is this: All the arts, music, poetry and the drama, as well as the fine arts, ended about a century ago in so far as they were the instinctive expression of the community that produced them. Whatever has been done since is the work of individualists, self-conscious artists who by the force of their personality imposed art on an admiring but indifferent and rather ignorant society. Thus art has been turned upside down, for "Pheidias was what Hellas made him, not what he made himself." As another illustration in support of this assertion, Mr. Cram points to the death of the crafts and craftsmanship. He is on solid ground here. The idea that the spirit of the community underlies great art is only beginning to be admitted by our exponents of culture in the literary world, though Taine demonstrated it effectively two generations ago. What a blessing it would be if educated Americans occasionally read a foreign book that was not a novel. Here Mr. Cram drives his point home. He declares that the individualistic art will crumble away, because the civilization of the nineteenth and twentieth centuries that produced it is in the crucible of the great war, where it will burn down into something different and purer. "Everything is in a state of flux," an assertion which is echoed everywhere, not so much by philosophers and dilettanti as by soldiers and statesmen, journalists, financiers, men of action. Therefore he regards the nineteenth century and the twentieth century up to 1914, not as a new era, but as "the death-bed of an epoch of five centuries." With the profound reorganization of the world that is already chronicled in the press as daily evolving in the warring countries, Mr. Cram foresees an entirely new art. That is, our civilization is false, or it would not now be in chaos. It must evolve into something sound, or it will perish. If it evolves into something sound the art that it produces will be sound. Thus Mr. Cram, in remarkable periods, emphasizing each assertion with telling illustrations and with a vividness that cannot possibly be translated.

Now what are we to think of all this? Those few architects who have emancipated themselves from the primitive, eighteenth century conceptions of public affairs that most Americans hold, will read Mr. Cram with deep sympathy and understanding. As to another group, it is easy to know what their opinion will be. More than one of the ideas that Mr. Cram offers have been submitted to authority in the past and have been rejected as not sus-

ceptible of proof. Academic, archeological-minded criticism regards such ideas as scarcely material for "scholarly investigation." They are held to be merely "conversation."

But history is moving with terrible swiftness. What were thought facts have been shown to be fiction, and some of the nebulous dreams of enthusiasts are seen to be real. A crisis is always the vindication of the seers. At any rate, since the reorganization of the national life of the warring nations is self-evident, and since voices from all ranks, the most practical kind, are saying that the United States as a question of meeting competition must reorganize and remodel—why, then, we must be ready for profound changes. All professions must aid in the work, must have ideas to present and methods to suggest. The analytical or contemplative folk have had the direction of things in their hands, the lawyers and literary classes; now the counsel of constructive brains may well be of aid. Architects have developed an attitude of mind that should be of value to the public weal; besides the residence and travel abroad of many of them have rubbed off provincialism and broadened powers of comparison. Let all be ready, for soon they may be called upon for unusual service.

JOHN TAYLOR BOYD, JR.

Second Conference of Public Art Commissions.

The Department of the Art Jury of the City of Philadelphia has invited the members of the Federal Commission of Fine Arts and of the various State and municipal departments of art throughout the United States to a conference to be held in Philadelphia on May 15. This will be the second conference of such bodies, the first having taken place three or four years ago on the invitation of the New York Art Commission. The morning session will be in Mayor Smith's reception room in the city hall. Those attending the conference will then be taken in motors to Lynnewood Hall, the residence of Mr. Joseph E. Widener, president of the Art Jury, who will entertain them at luncheon. The afternoon session will be held at Lynnewood Hall. In the evening the members of the conference will be guests at dinner at the Ritz-Carlton. The first municipal departments of this kind were appointed in New York and Boston in 1898. In addition to the National Commission of Fine Arts, there are now about five State art commissions and about twenty-five municipal art commissions.

Progress in City Planning During 1916.

A very full and valuable report on the progress of city planning work in America and elsewhere during 1916 is contained in a paper read by George B. Ford before the annual convention of the National Municipal League at Springfield, Mass. The most notable individual achievement was the New York City Zoning Ordinance. It was the most notable, however, mainly because it affected the first city in the country. Legislation of equal intrinsic importance was enacted for other municipalities; and the city planning work done was larger in volume and concerned more cities than that of any preceding year.

Of the fifty-odd cities of over one hundred thousand population in the United States twenty-two made notable contribution to the rapidly increasing volume of city planning history and achievement. Of the cities of from 25,000 to 100,000 population, which number about 200, twenty-nine made constructive advances in city planning. A large number of cities of lesser size accomplished results which, in the mass, are important.

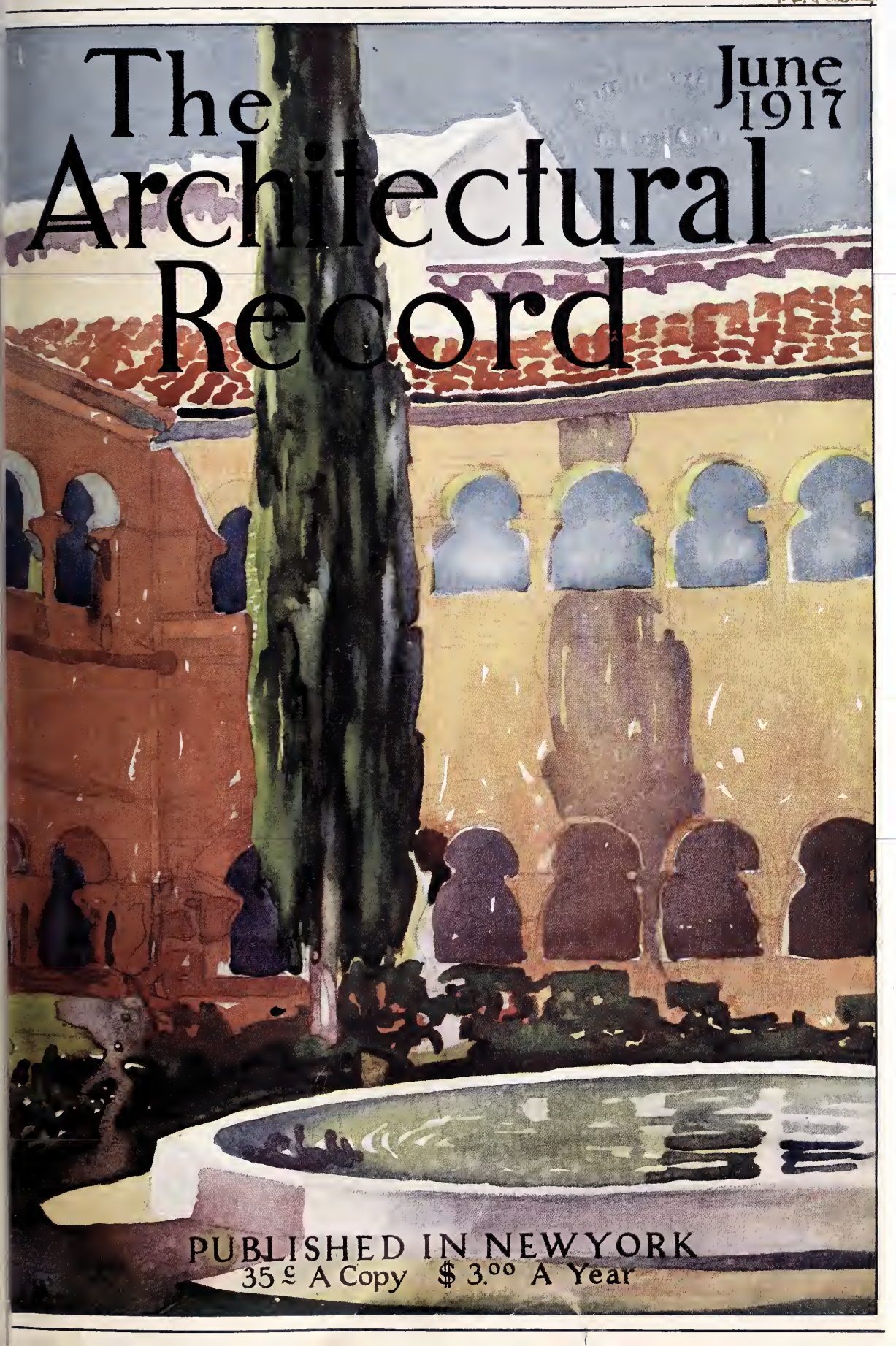
A Correction and an Explanation.

Through an error originating with the dealer from whom we obtained the photographs, the location of the residence of Addison C. Mizner, illustrated in our March issue, was given as Whitestone Landing, L. I. It should have read Port Washington, L. I. We were greatly pleased to have the opportunity of showing the house in its present form, partly because of its historic interest, but more especially because of the fine quality of the restorations and additions by Mr. Mizner; and we naturally regret ascribing to it a wrong situation.

Owing to delays in the mail service between England and the United States, we have not received the material for Part IV of the series on "English Architectural Decoration" by Albert E. Bullock, R. I. B. A., as the May number of the Architectural Record goes to press. We hope to continue this valuable series in the near future.

The Architectural Record

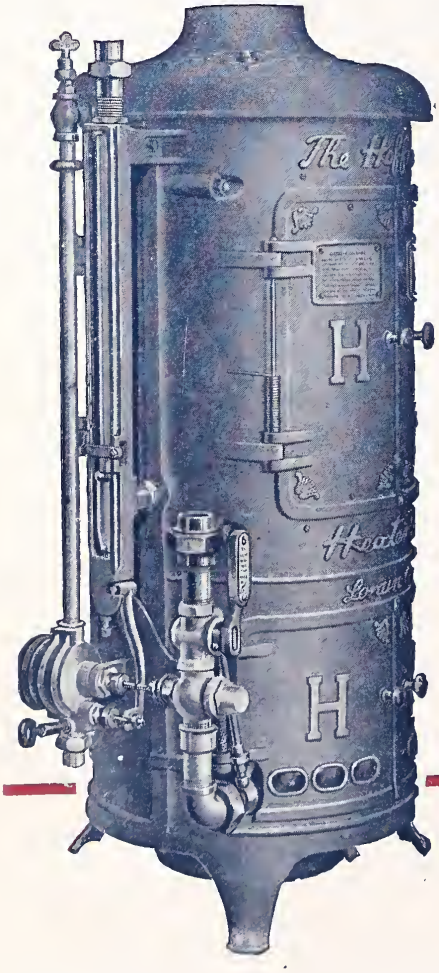
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THE ARCHITECTVRAL RECORD

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SOUTH VISTA IN GARDEN—RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT. BRONZE DIANA FOUNTAIN BY MISS JANET SCUDDER. MARBLE SUN-DIAL BY MISS HARRIET W. FRISMUTH. LANDSCAPE ARCHITECTURE BY M. H. HORVATH.

THE ARCHITECTVRAL RECORD

VOLVME XLI NVMBER VI

JVNE, 1917

The REBUILDING OF LONGWOOD

Residence of John L. Severance, Esq.
Cleveland, Ohio.
Charles F. Schweinfurth, Architect

BY I.T. FRARY

A GENERATION ago, anyone with a leaning toward the study of architecture, either as a profession or a fad, felt it incumbent upon him to saturate his mind with the teachings of John Ruskin. The "Seven Lamps" and "Stones of Venice" were absorbed with avidity, and under their poetic spell architecture and ethics were forced into a union which was deemed necessary and complete.

However we of today may regard the Ruskinian theories, we must acknowledge that there are many things to be learned from them, and not least is the insistence upon sincerity in building and the careful study of detail.

It is a temptation, under the stress of big business, high prices and the desire for effect, to skimp in the things that are not visible in a completed structure; and in the rush of a busy office it is more than a temptation roughly to indicate on detail drawings the general effect of ornament and trust to luck and the contractor for results.

It is, then, with a feeling of satisfaction that one comes in touch with a house like Longwood, in which owner and architect have worked together in harmony to the end that every detail of construction and enrichment should be as perfect as skill and material could make it. To the casual visitor or to the person who knows such a house only from photographs, its greatest charm is unsuspected. The elements which differentiate good construction from poor are hidden, except to those experienced in building; and the refinements of detail are appreciated, like any other form of art, only by the trained eye and mind. The photographs of Longwood which are reproduced on these pages show the general effect, but the refinements are discovered only as one

makes a careful study of the house itself. As the title of this article suggests, the house has been completely remodeled, the service wing having been detached and moved some distance diagonally toward the rear and a new block built connecting the two wings. On the plan, old work is shown in outline and new work is blocked-in solid. Nearly all the old interior trim was removed, so that today we see practically nothing but new work. A glance at the plans will make the arrangement of rooms evident. It is only the details that require explanation.

The Gothic style has been used throughout the first floor, different phases of it being developed in the various rooms. The woodwork of the main hall and gallery is of native oak finished a dark brown. A general idea of the design may be obtained from the photographs, but the deep undercutting and high relief of the oak leaf and acorn carved around the door trim and the spirit of all the ornamental details can be appreciated only through close inspection.

In a corner of the hall, close to the entrance, is placed the console from which the triple organ is played. The main organ is placed in a large alcove directly across the hall from the console, and the front is concealed by a superb Gothic tapestry, which fits its allotted space as perfectly as though woven for it. Another section of the organ is located in the basement and speaks through a grating in the floor in front of the library door, while the echo is located on the third floor.

The main doorway is of steel and bronze, the glass panels being protected by a grille, the bronze ornament of which is as delicate as jewelry.

All the walls on this floor, where not covered with wainscoting, are hung with fabrics, the patterns and colorings of which have been selected for their unobtrusiveness, thus relieving the richness of woodwork and furnishings.

At the west end of the gallery is featured a bronze replica of Verrocchio's famous little fountain in the Palazzo Vecchio at Florence. The floor surrounding it is of marble, inserted in which, around the fountain's base, are twelve small bronze plates bearing the signs of the zodiac.

In the vestibule a pleasing conceit is seen in the upper wainscot panels, where a play on the name "Longwood" is evident in the carved representations of tall tree trunks.

The woodwork of the drawing room is of French walnut and the mantel facing of Botticino marble. While there is but little woodwork in this room, there is found on the door casings one of the most interesting bits of carved detail in the house, consisting of intertwining vines, perched on which are tiny birds and animals carved in high relief and executed with the greatest delicacy and spirit. This quaint band, so full of animation, climbs either side of the doorway and across the top, where at the central meeting place two cooing doves with bills together suggest a benediction of peace upon all who pass below.

It is a temptation to describe the furnishings of this room, which contains rare pieces of furniture both antique and modern, to say nothing of pictures, ceramics and jades, but these, together with the other treasures of the house, could not be considered adequately in this space.

The library woodwork, including ceiling beams, is of English oak, which has been finished to retain the natural color. The mantel facing, like that in the drawing room, is of Botticino marble. An interesting feature of both these mantels is the delicate bronze grille which squares up the fireplace opening. To the back of this is attached a rolling screen of brass mesh, which, when drawn down like a window shade, forms an effective spark-guard. A good idea of the unique bookcases in this room can be gained from the photograph, as well as an imperfect idea of the many decorative motifs introduced in the carving. Especial attention may be called to one curious feature which otherwise would be unsuspected. The carved cornice moulding of the bookcases, which appears to be merely a band of rich ornament, forms in reality the fronts of a row of shallow drawers. Finger-holes are cunningly cut behind some of the leaves, and other portions of the ornament conceal the joints, so that



NORTH VIEW—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.

no evidence is to be seen of the hidden receptacles.

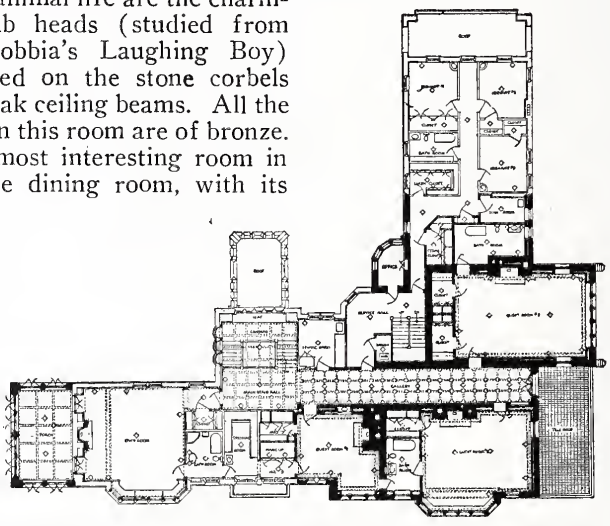
Opening from this room is a small sun room with limestone walls and a floor of tan-colored hexagonal tiles, which are interspersed with ornamental tiles of varied designs and colorings.

The moulding above the openings rests upon rectangular bosses, on the faces of which are carved squirrels, rabbits, bats and birds. Even more attractive than these details of animal life are the charming little cherub heads (studied from Lucca della Robbia's Laughing Boy) which are carved on the stone corbels supporting the oak ceiling beams. All the doors and sash in this room are of bronze.

Perhaps the most interesting room in the house is the dining room, with its linen fold paneling, ornamental plaster ceiling and great carved limestone mantel. The woodwork is of English oak finished considerably darker than that of the library. The linen fold paneling is carried to the ceiling and the carving terminates at the top in the crude foliated ornament found in late sixteenth century English work. The carving is excellent in character, of low relief, and has the texture which is so beautiful in the old handwrought work and which can be secured only by reverting to the primitive methods by which the old work was produced. The mantel is extremely effective and was carefully studied by means of a small scale model before being cut in stone. In this connection it might be stated that all the ornamental detail in the house was worked out first in careful drawings and then through the medium of full size models.

Although it is not in the province of this article to discuss the furnishings, the splendid tapestry hanging above the sideboard is too tempting to be passed by. It is a remarkable composition of Chinese figures and has been given the title of "The Emperor's Birthday." It was woven at the Gobelins factory for Louis XV and has a fascinating history linking it with the Court of Cathay, but "that is another story" and too long to be told here.

On ascending the stairway to the second floor, one cannot but notice the carved lions which form the finials of the newel posts. All differ in pose and it will be noticed that all are looking intently down the stairway as if to challenge those seeking to pass them.

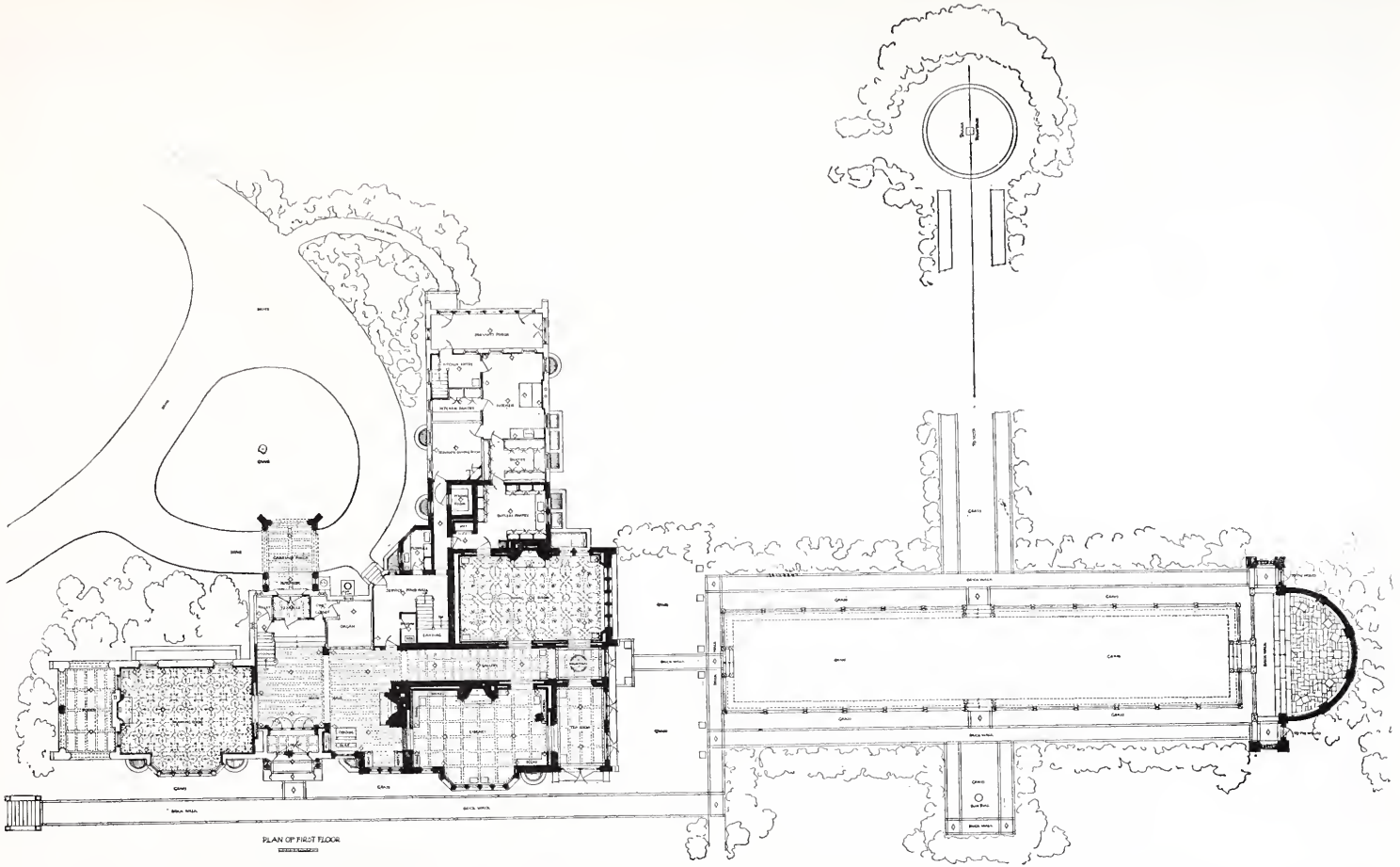


SECOND FLOOR PLAN—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND.
Charles F. Schweinfurth, Architect.

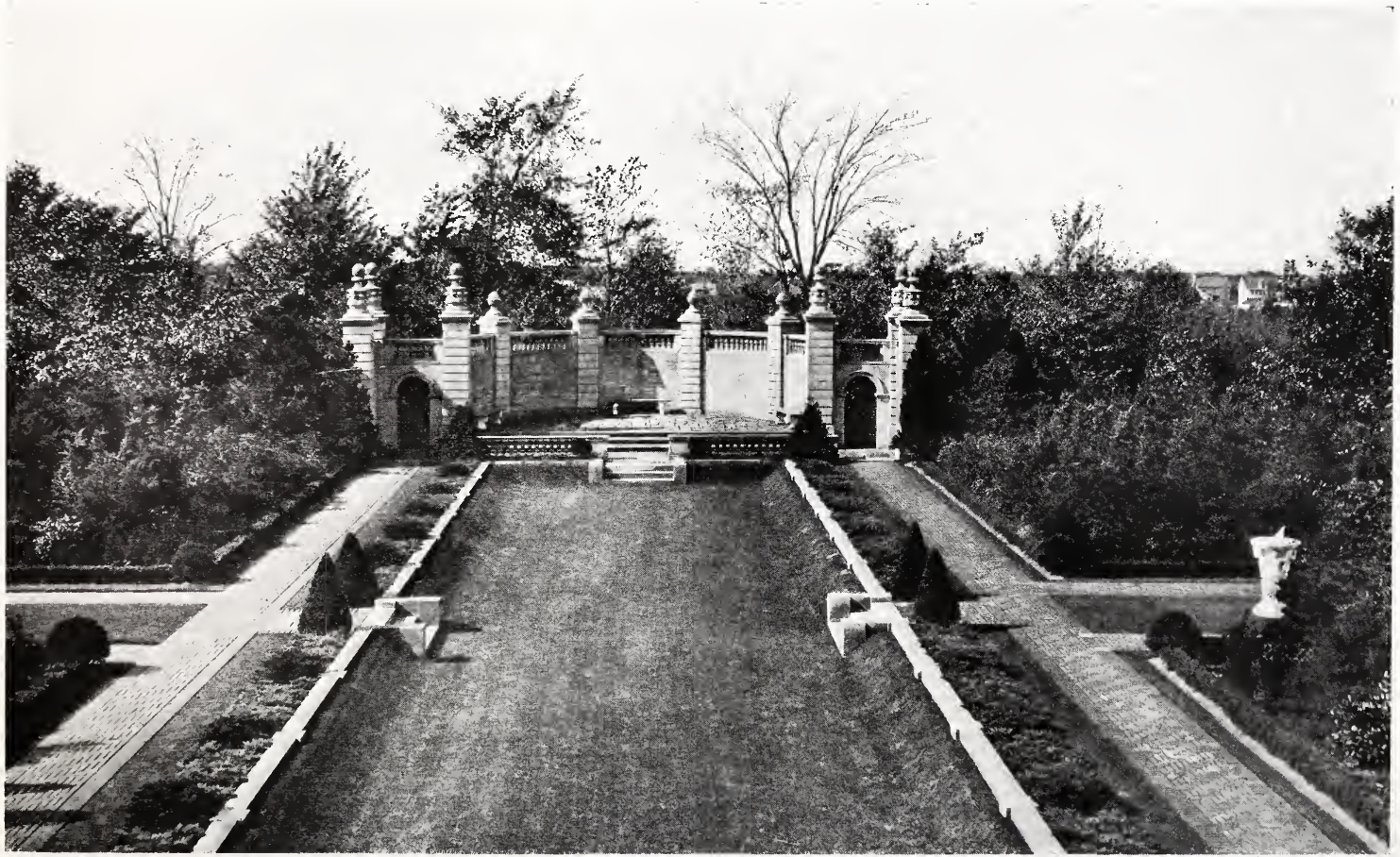
The detail on the second floor is as perfect in its way as that in the rooms below, and the bedroom mantels in statuary marble are exquisite.

It would be tiresome to go into detail regarding the structural features of the house; it is sufficient to say that because a thing was to be covered and unseen did not constitute a reason for its being slighted, and an investigator would find all the walls behind wainscoting carefully plastered and the basement as well finished as more conspicuous parts of the house.

To one unfamiliar with the house it may seem that undue emphasis has been laid upon the excellence of its detail, but a most superficial examination will convince one that this is excusable, for it is only by emphasizing these features that a just appreciation of the house can be gained, as the very refinements of detail and construction which are lost in photographic reproduction are what constitute the difference between such a house and one which is mediocre in quality.



GROUND FLOOR PLAN—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



WEST VISTA IN GARDEN—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



WEST VIEW—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



SUN ROOM—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



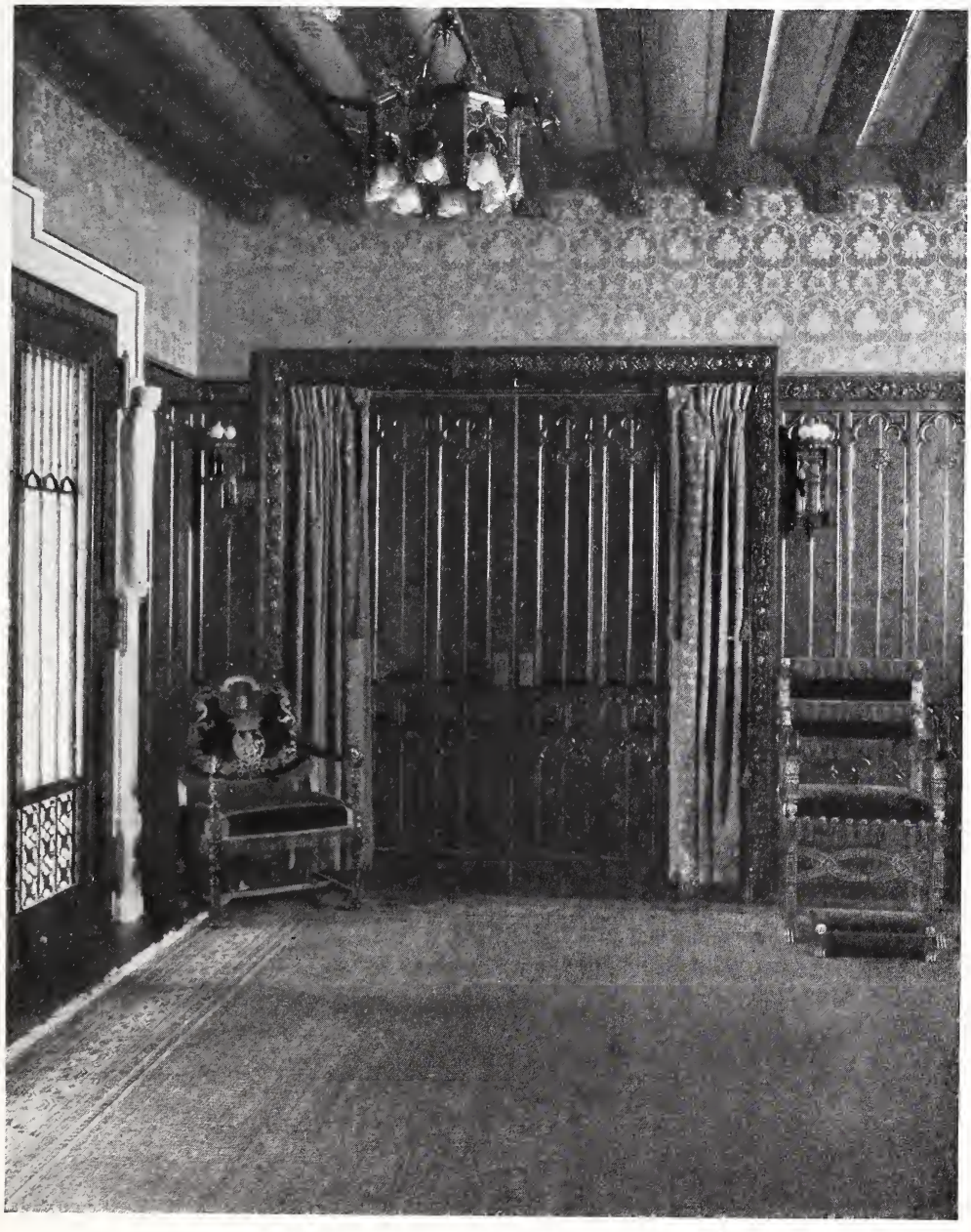
WEST END OF FIRST FLOOR GALLERY—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND.
Charles F. Schweinfurth, Architect.



SUN ROOM, LOOKING INTO GALLERY AND DINING ROOM—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND.
Charles F. Schweinfurth, Architect.



ORGAN CONSOLE IN HALL—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



MAIN HALL—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



STAIR HALL—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



DRAWING ROOM—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



DRAWING ROOM DOORWAY—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



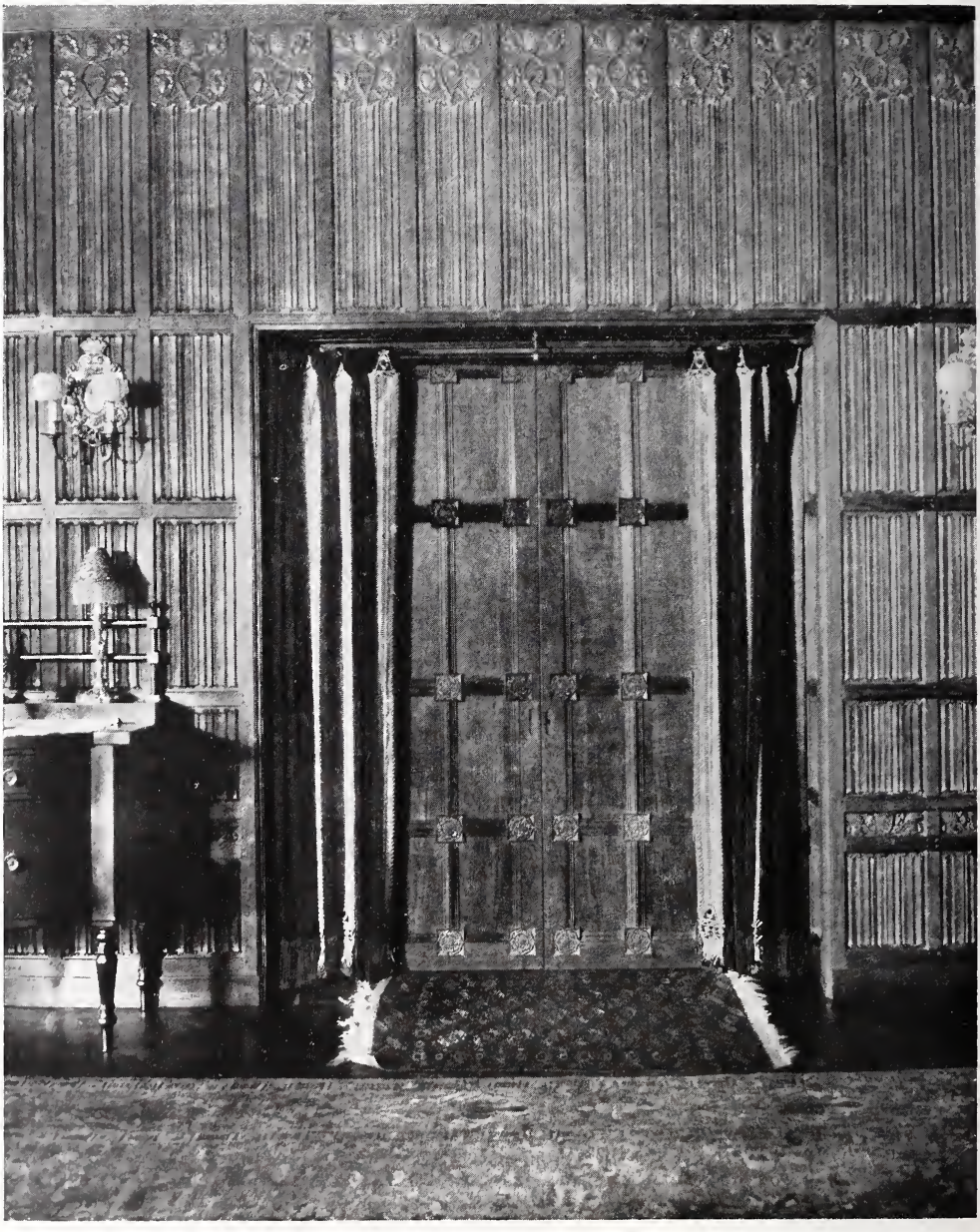
DRAWING ROOM MANTEL—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



LIBRARY MANTEL—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



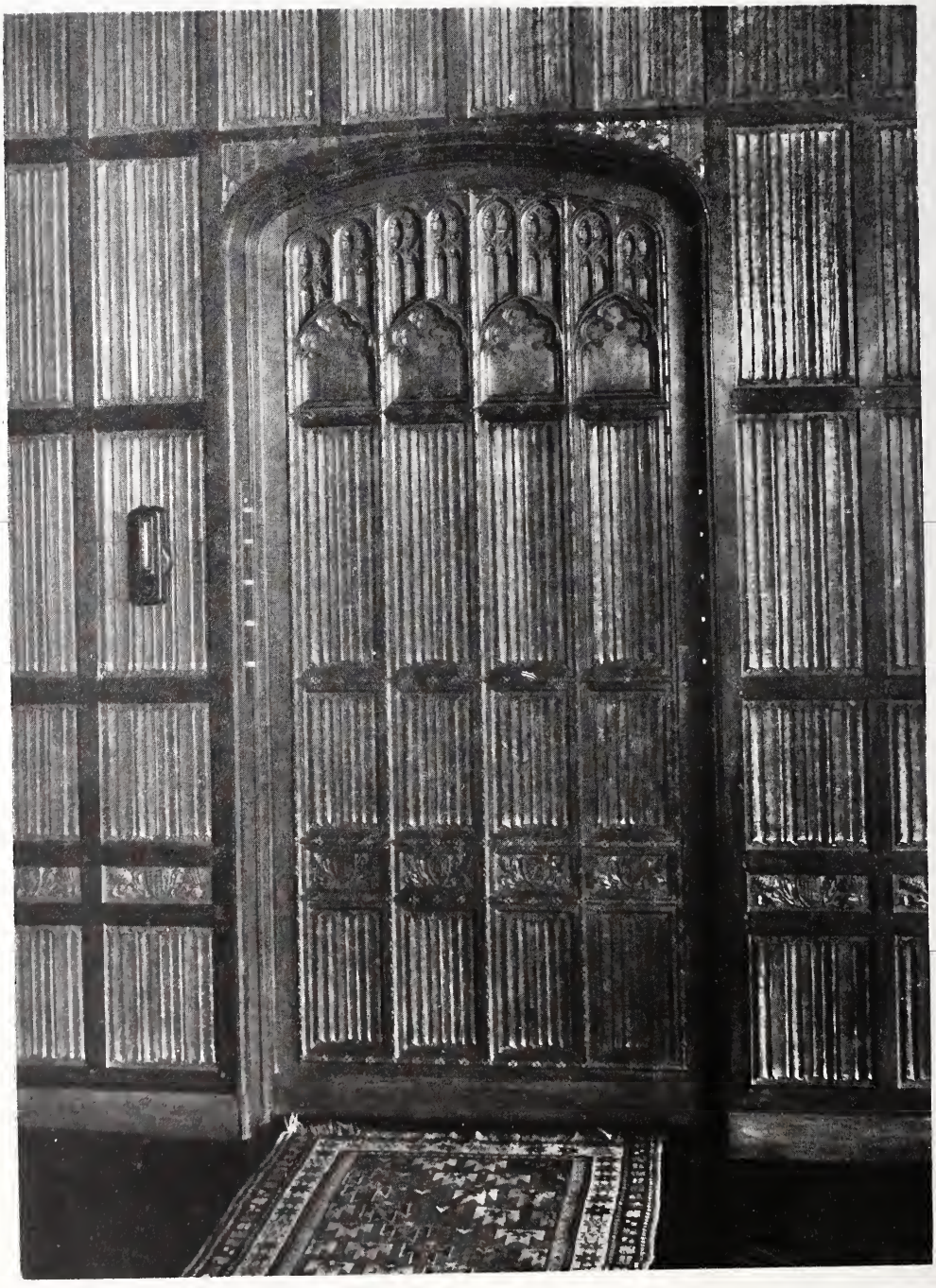
LIBRARY—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



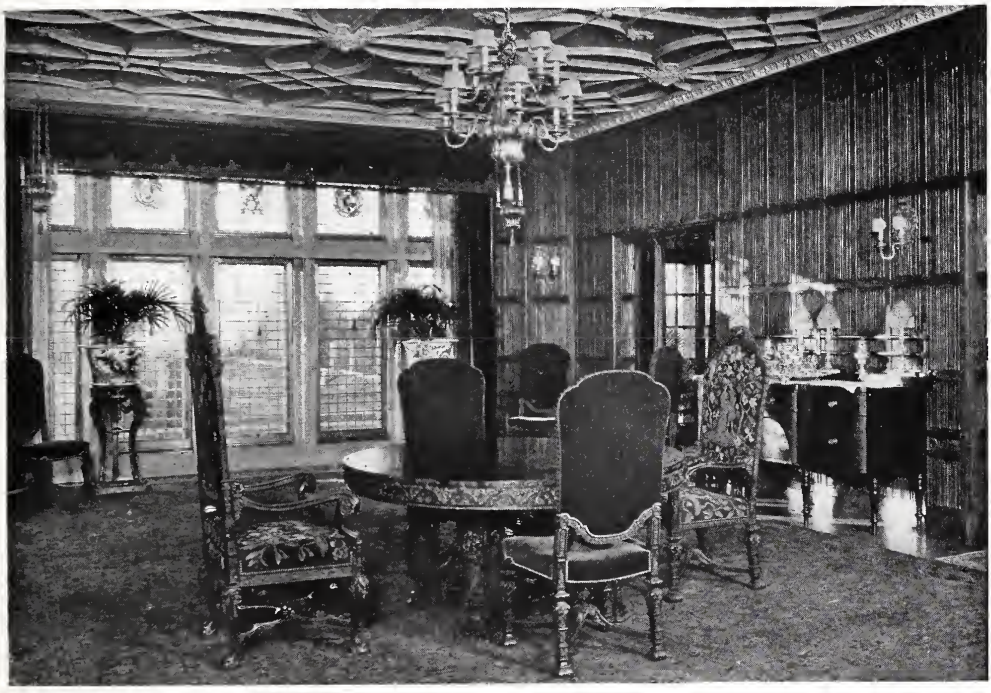
DINING ROOM DOOR TO HALL—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



DINING ROOM MANTEL—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



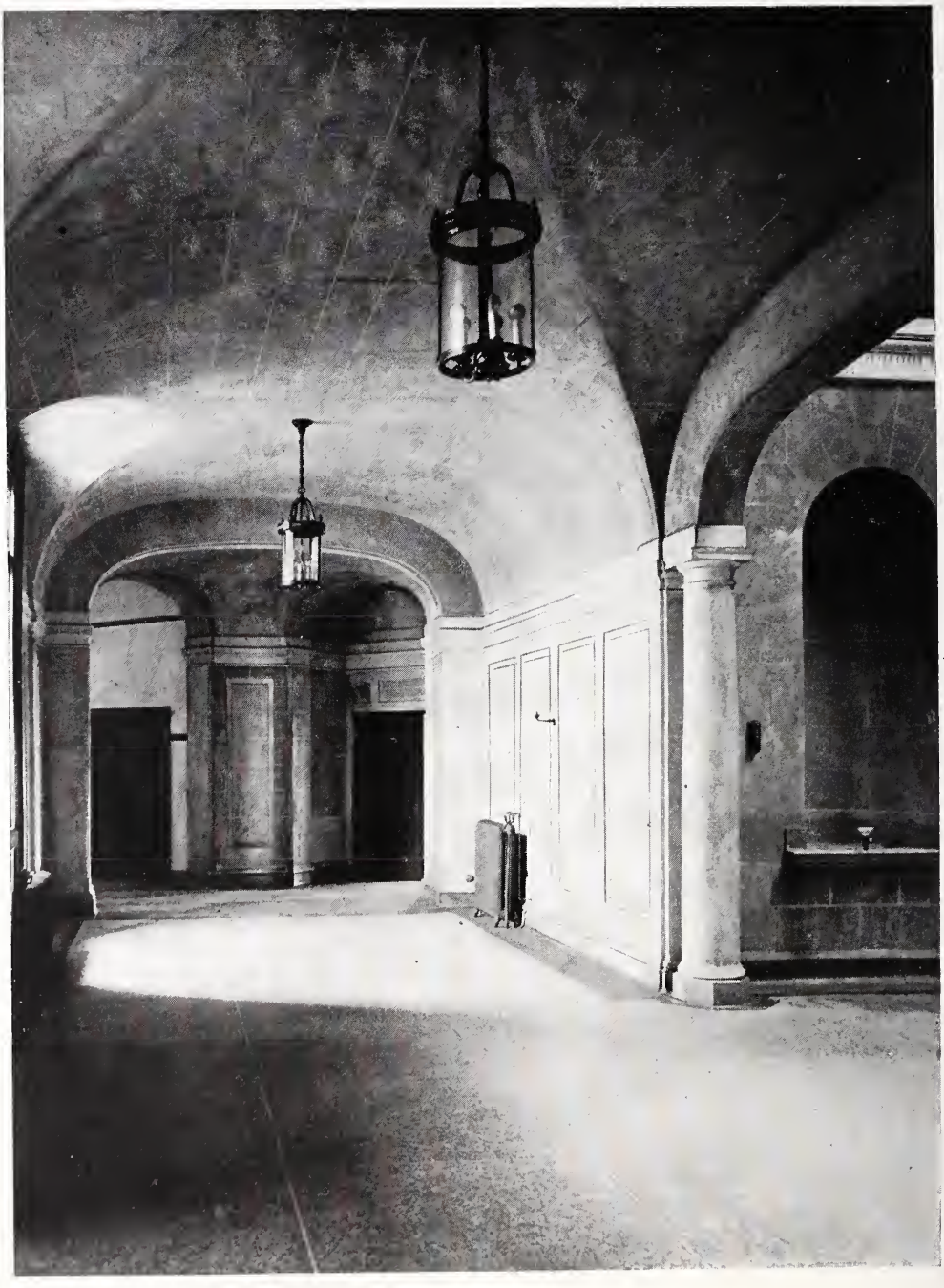
DINING ROOM DOOR TO BUTLER'S PANTRY—LONG-WOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND. CHARLES F. SCHWEINFURTH, ARCHITECT.



DINING ROOM—LONGWOOD, RESIDENCE OF JOHN L. SEVERANCE, ESQ., CLEVELAND.
Charles F. Schweinfurth, Architect.

The Longwood estate is situated a short distance east of Cleveland's city limits and comprises extensive, well-wooded grounds, whose beauty is greatly enhanced by a brook, the waters of which have been utilized to the utmost, forming small ponds and waterfalls. The general planting scheme has been developed along natural lines, except in the immediate vicinity of the house, where a formal garden has been laid out. This work was planned and executed under the supervision of the architect, Mr. Charles F. Schweinfurth, and the landscape engineer, Mr. M. H. Horvath. Two charming bits of sculpture are features of the formal garden, the bronze Diana fountain by Miss Janet Scudder terminating one vista, while the marble sun-dial by Miss Harriet W. Frismuth occupies a point of vantage as one looks in the opposite direction. The three figures supporting the sun-dial are designed to represent Morning, Noon and Night.

The entire place is imbued with the charm of the old English manors and, although new, has little of the awkwardness of youth; quite to the contrary, its splendid setting of trees, augmented by a liberal planting of shrubbery, has tied it well into its surroundings, so that it already possesses that most desirable of assets, the quality of seeming to be an essential part of its environment.



ENTRANCE HALL IN MANUAL TRAINING BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.

The GEORGE PEABODY COLLEGE FOR TEACHERS



NASHVILLE, TENN.



Ludlow & Peabody, Architects

By JOHN TAYLOR BOYD, JR.

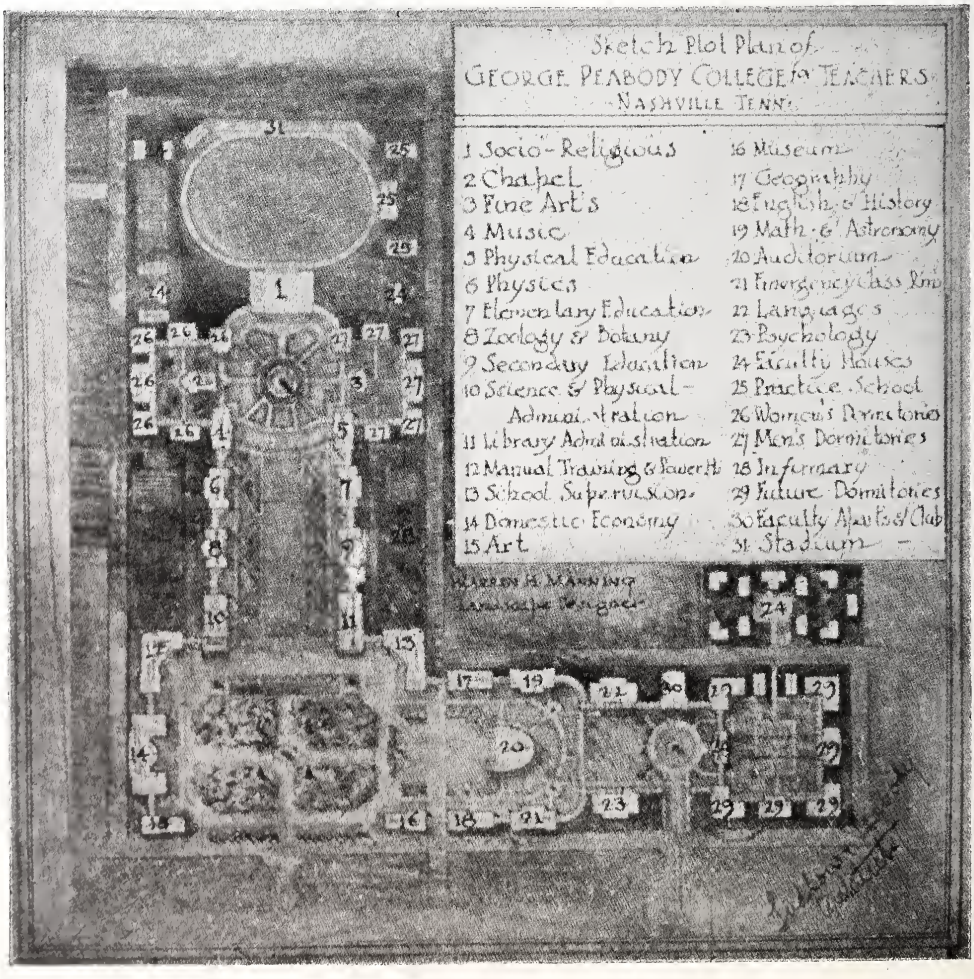
ONE of the most important developments in our national life is the extraordinary growth which has taken place in advanced education during the last two generations. This growth has been accelerated with each year; and, apart from greatly enlarging existing universities and colleges, it has brought about the creation of many new institutions, of which the George Peabody College for Teachers is an example. Yet in spite of all that has been accomplished it is a fact of great significance to architects that the development evidently has only begun. If, as we are told, not more than one-twelfth of the number of American children graduate from the high school and less than two-fifths of these enter college, we may expect a notable increase in the building both of secondary schools and of institutions of the rank of colleges; assuredly the leaders of the national life will never be content with so poor a showing in the attendance at the higher institutions of learning.

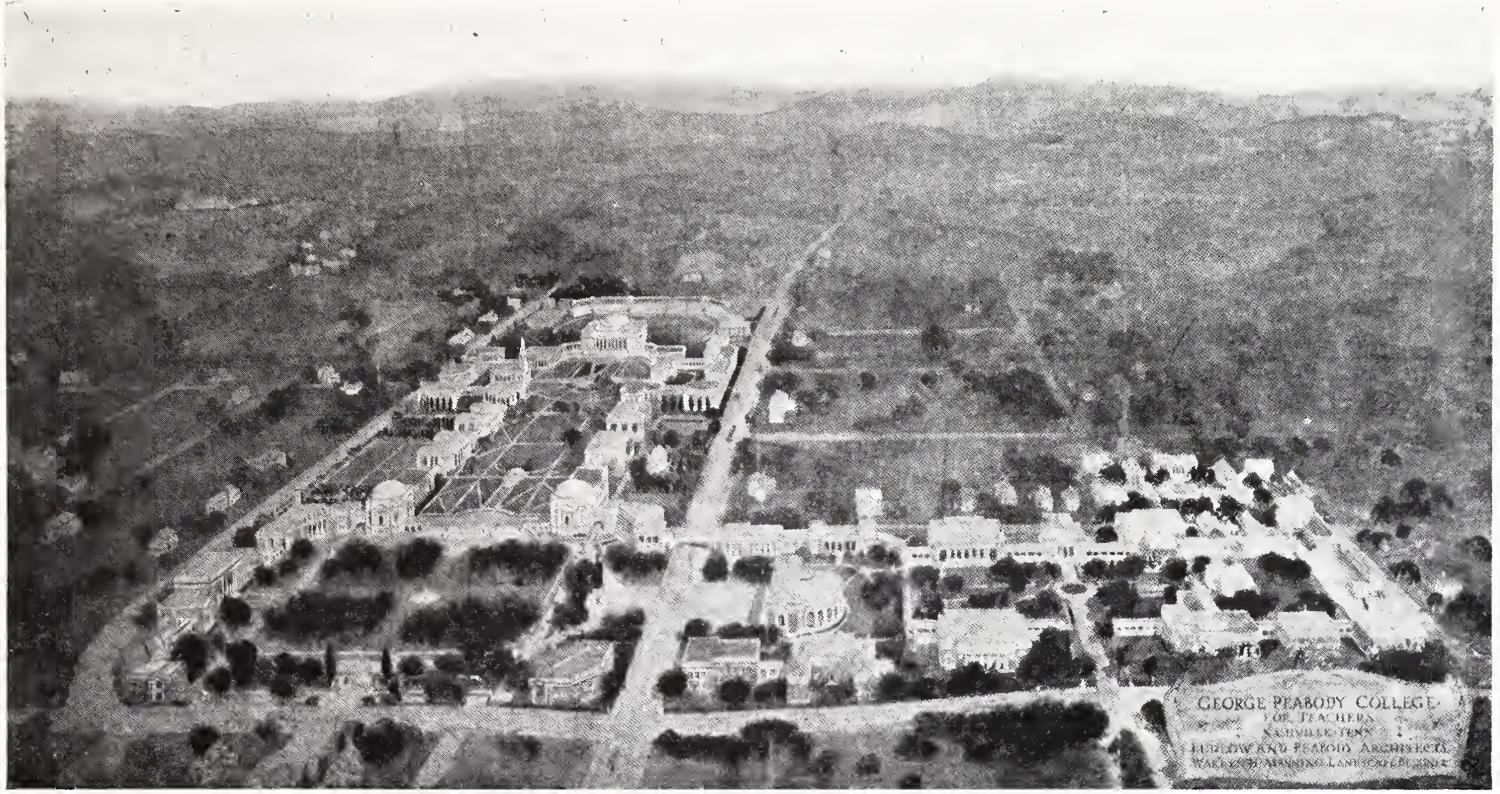
Of the new institutions recently created the greater share has been located in the West and of late, the South. All the new institutions are to be congratulated on one great excellence—they have not grown haphazardly, like the older institutions of the East, but have, practically all of them, been planned from the start in comprehensive architectural schemes with wise provision for large future expansion. The precedent for these immense plans, and their inspiration too, was undoubtedly the great competition for the University of California, held in 1896. The winning design of Emile Bénard, of Paris, suffered somewhat by being impractical, especially in the matter of the colossal expenditure that was contemplated for grading; consequently it had to be greatly modified in execution. Fortunately, the idea of comprehensive architectural planning was not thereby discredited, as one might have expected, among American business men and educators, whose minds are necessarily fixed on economy. A series of institutions were planned on the same basis as the University of California, many as the result of architectural competitions. Disregarding details, most of the designs have this in common: they are laid out usually on classic lines, with great axes and vistas obedient to the ideals of the Ecole des Beaux-Arts, whose teachings were at that time accepted rather blindly, often without enough respect for differing conditions or for the different traditions of education in the United States. Some of the architects or the judges in the competitions seem to have been but imperfectly steeped in the traditions of American universities. Consequently, with their great open spaces, their axes, their formalism and their monumental columns and domes—"dignified" was the word most used—some of the designs lost much of the homelike intimacy, of the aspect of communal seclusion intrinsic in an American or in an English college. In borrowing too literally from contemporary French teachings, it was not realized that the dormitory life of Anglo-Saxon colleges, in itself a survival of ecclesiastical cloister life, makes them quite different from the modern French or German institutions, which the students attend as great day schools, without any organized undergraduate life in dormitories, without generous provision for athletics and without the

countless groupings in clubs and societies so familiar to us in our native schools.

The American college or university is a home; most of the universities of the European continent are institutions merely. This is a distinction that in recent years many intelligent Europeans have come to realize. "All the superior training, scholarship and science of the French and German Universities," more than one European has said to me, in effect, "will not make up for the development of character and initiative among one's fellow men that you English and Americans attain in your schools." That is why Europeans have taken up sport so enthusiastically—to provide a corrective for the unregulated and unhealthy town life of their students and faculties. With all the faults of our higher education only too apparent, let us make the most of our excellences, and, in so doing, why not embody architecturally the really unique features we possess? Some at least of the newer university groups, however correct or perfect they may be, are unfortunately so public in their architecture that they lack personality and charm.

The most conspicuous instance of this too public character is the new group for the Massachusetts Institute of Technology in Boston. The scheme, it is asserted, was largely the work of engineers, who had succeeded in crystallizing it before they were persuaded to ac-





BIRD'S-EYE VIEW—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.

cept the services of an architect. The fine perspectives in the courts and the perfectly executed details are hardly a sufficient compensation for inherent monotony and coldness; the group has nothing of the expression of an American institution that any one can recall, searching one's mind as minutely as one may for remembrances of undergraduate days. These Technology buildings really set a dangerous precedent in collegiate architecture, for they embody the decision of an institution of high and long established prestige, one which carries great weight in public opinion.

Mr. Ralph Adams Cram has been justly praised for the stand he has taken in respect of proper architectural expression in American college buildings. He insists upon the need of a traditional background and of a pervading domestic atmosphere. These qualities he has imparted to his designs. His work has largely been done in the East, where, to be sure, he was adding to old, ill-arranged schemes, and where usually any monumental treatment of group planning was impossible; but we are to remember that his Graduate College at Princeton and his design for West Point are complete new creations, where the architect had choice of opportunities, yet preferred a domestic, sequestered character. The evidence of Mr. Cram's wisdom is compelling if we consider his plan for Green Brier Institute in Virginia—a group carried out in the Georgian style. Here one sees courts, quadrangles, gardens, unsymmetrical features —a whole new scheme—combined with wonderful unity of expression.

Another admirable instance of college design is the new Freshman Dormitories at Harvard by Mr. Charles Coolidge which, in the style of the earlier buildings of the university, stretch along near the river, forming a separate group in as charming and perfect a series of courts and quads as are to be found anywhere.

In the foregoing lines I have striven to bring out the essentials to be expressed in the architecture of an American college or university. However conditions may vary in local cases, whatever diversity or special purposes may develop—and our higher educational institutions grow more diverse with our national life—we should understand most profoundly the American university ideal. This is the soul of the problem which we must ever have before us, lest modification or evolution be blind and perhaps disastrous. Thus, in the light of the ideal, the George Peabody College for Teachers becomes a significant case for study.

It is an institution with an unusual character, developed during forty-two years of growth, a long enough life-span in American education. It began as a New England inspiration, in the brain of George Peabody, of Salem, Mass., when in 1867, less than two years after Lee's surrender, this philanthropist called together a small group, including some of the ablest citizens of the country, and made them trustees of the Peabody Education Fund of over $2,000,000, to be devoted to public education—mainly common, high and normal school education—in the seceding States. It was the same Peabody whose benefactions have enduring form at Harvard, at Yale, in the Peabody Institute, and also in a great housing philanthropy in London, which latter at this day provides homes for some 40,000 souls. The Peabody Education Fund came at a critical time for the South, for there not a single State had a system of free public schools and only a few cities possessed such schools. Generously managed under the headship of Dr. Barnabas Sears, formerly president of Brown University, it was as generously received. A sort of forerunner of the Rockefeller Foundation, it disbursed grants of money, but much more important still it disbursed inspiration. The most useful effort of the Fund was the training of teachers of all grades, in rural and city schools, and of school superintendents, a function which was fulfilled by the creation, in 1875, at Nashville, Tenn., of the Peabody Normal College, a model college for teachers throughout the South. "The Normal for Normals," it was called. This Normal College, partly supported by the State of Tennessee and affiliated with the



PSYCHOLOGY BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.

University of Nashville, came increasingly to embody the purposes of the Fund until, in the first years of this century, it was reorganized and endowed by the Fund, with county, city and State aid, under the name of the George Peabody College for Teachers. Its property represents a value of about $5,000,000, including endowment, of which $2,000,000 is credited to its affiliation with Vanderbilt University, an institution appraised at about $2,700,000.

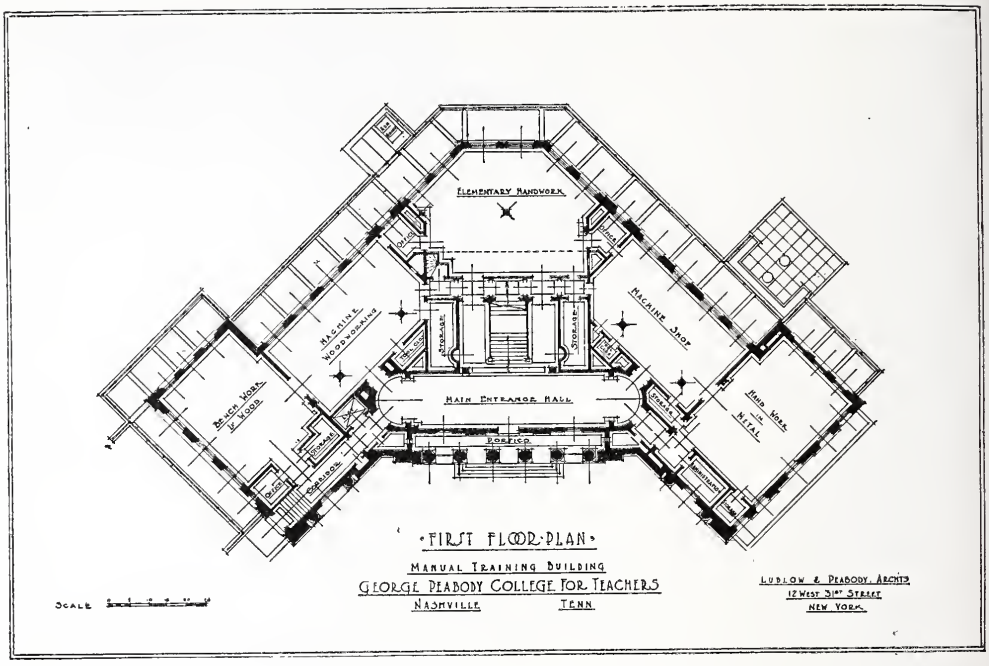
After some fifty acres of land were obtained by purchase and gift, work was begun on the new buildings in 1912. Four of them have been constructed at a cost of about $350,000. They are the first of a great scheme which comprises some eighteen academic buildings, fifteen residence halls, a practice school, a social service building and a five-acre athletic field. The estimated cost of the whole group was about $2,500,000 in 1912.

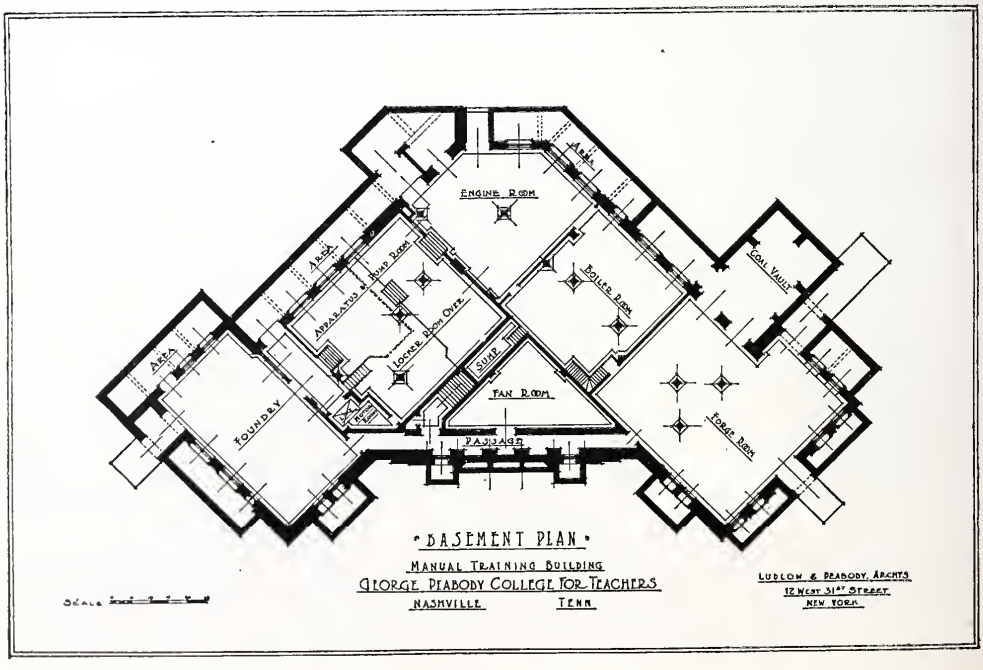
The site lies south of the city of Nashville, in beautiful, fairly open country, permitting the situation of the long campus on a gently rising slope, on the highest point of which is located the main building—the Social-Religious Building. The view from this main building is northward, down the axis of the college group and over the city of Nashville. From Nashville the approach is parallel with the campus, along Hillsboro Road, which cuts the L-shape of the plan in two and which appears in the perspective as spanned by a bridge. The toe of the L west of Hillsboro Road, containing buildings Nos. 13-29 of the plot plan, has since been sold; the new location of these buildings, when constructed, will probably lie along the main axis, nearer Nashville. One cannot help regretting the change, which might tend to string the structures along in a monotonous way. Hillsboro Road acts as a service road for the rear of the buildings on the west side of the campus, and another new street provides the same function for those on the east. Here a wise provision has been made. The ground is sloped away on each side perpendicularly to the main axis, affording low two-storied buildings without unsightly basements on the campus, and allowing open basements on the rear. Two stories have been fixed as the typical height for the buildings. The dumbbell-shaped plot plan is comprised of two groups: first, the upper campus, occupied by the parts devoted to scientific work and to the liberal arts; and second, the lower, squarish group in the foreground containing buildings Nos. 12-16, comprising the section given over to the study and practice of secondary education and the humanities. It will be noticed in the perspective that the court formed by this group of buildings is thickly planted with trees. These are not products of the painter's brush, but are real trees; this part of the site was formerly an old estate with a mansion, whose splendid specimens are preserved to form a grove in the college campus. The grove is lighted with lanterns on occasion and has been turned to account in an unique way. In the summer, once or twice a week, a story teller gathers the students under the trees and "tells stories," in the good old-fashioned manner of the bards and minstrels, not by way of idle picknicking, as one might suppose, but in order to impress unimaginative, matter-of-fact American minds with the possibilities of this most valuable means of teaching children. Thus a new function has been born, a new variation of that invaluable tradition of games, outdoor plays, pageants, masques, community dances that is being developed throughout our universities, bringing color, enrichment, art, imagination into our somewhat barren lives. It is but another aspect of the peculiar community life of our universities that I have pointed out above.

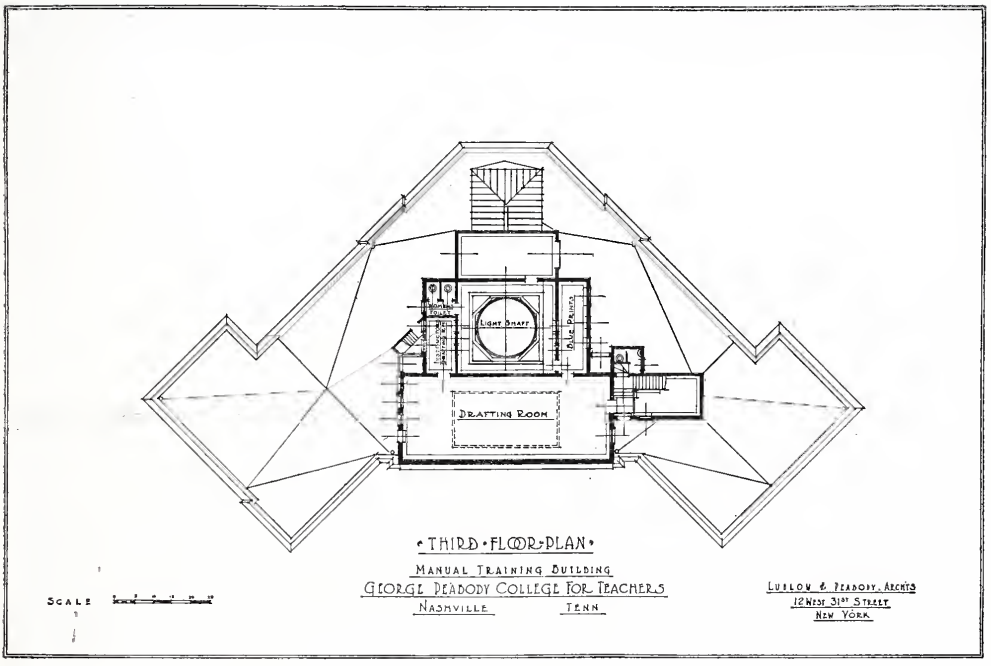
The lower campus is separated by a large flight of steps from the upper campus, at the further end of which again is another large flight of steps that forms in front of the Social-Religious building an immense amphitheatre or open-air forum to be used for great gatherings and functions. At either side of this dominating structure of three stories and a dome are two small courts, with a chapel in the centre of one and the Fine Arts building in the centre of

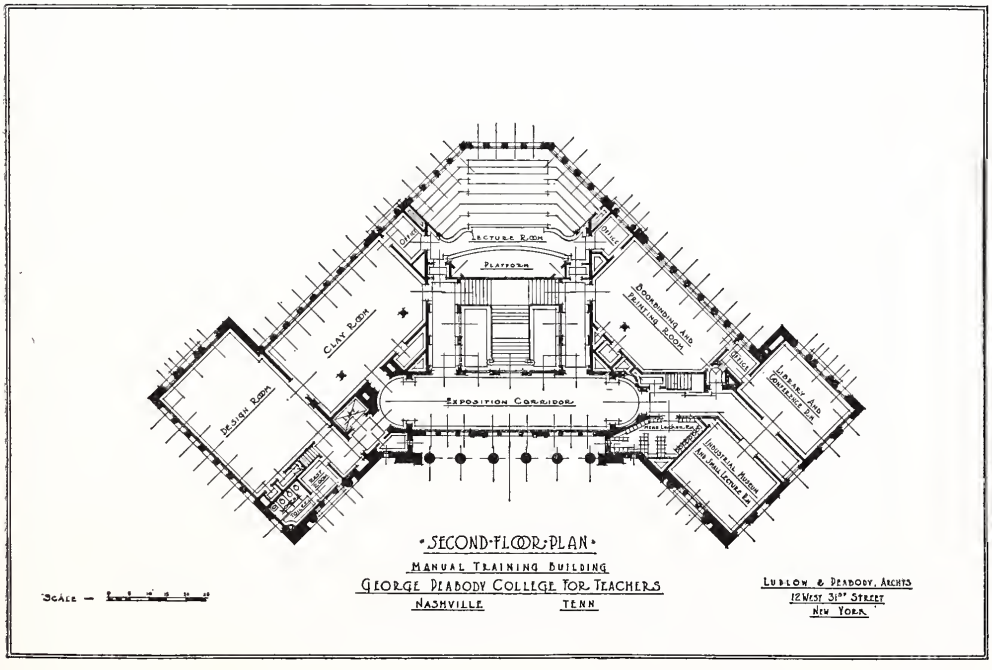


HOUSEHOLD ARTS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.


ELEMENTARY HANDWORK
MACHINE WOODWORKING
MACHINE SHOP
BENCH WORK IN WOOD
MAIN ENTRANCE HALL
BENCH WORK IN METAL
ROSTRUM
SCALE
FIRST FLOOR PLAN
MANUAL TRAINING BUILDING
GEORGE PEABODY COLLEGE FOR TEACHERS
NASHVILLE TENN.
LUDLOW & PEABODY, ARCHTS
12 WEST 31ST STREET
NEW YORK.


ENGINE ROOM
BOILER ROOM
COAL VAULT
FOUNDRY
FAN ROOM
PASSAGE
FORGE ROOM
SCALE
BASEMENT PLAN
MANUAL TRAINING BUILDING
GEORGE PEABODY COLLEGE FOR TEACHERS
NASHVILLE TENN.
LUDLOW & PEABODY, ARCHTS
12 WEST 31ST STREET
NEW YORK


LIGHT SHAFT
DRAFTING ROOM
THIRD FLOOR PLAN
MANUAL TRAINING BUILDING
GEORGE PEABODY COLLEGE FOR TEACHERS
NASHVILLE TENN
SCALE
LUBLOW & PEABODY, ARCHTS
12 WEST 31ST STREET
NEW YORK

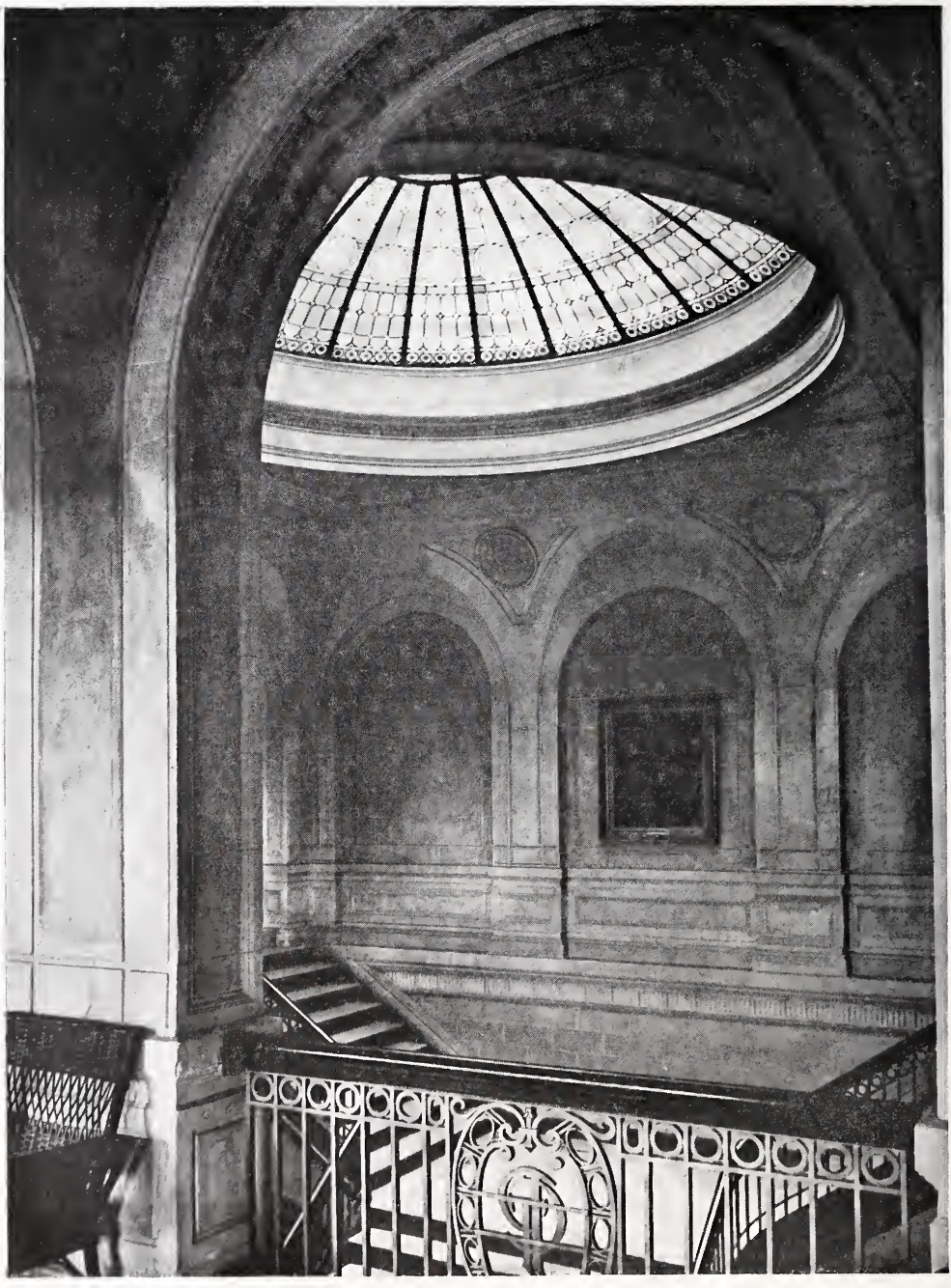

LECTURE ROOM
PLATFORM
CLAY ROOM
DESIGN ROOM
EXPOSITION CORRIDOR
LIBRARY AND COLLEGE OFF.
INDUSTRIAL MUSEUM AND SMALL LECTURE RM
SECOND FLOOR PLAN
MANUAL TRAINING BUILDING
GEORGE PEABODY COLLEGE FOR TEACHERS
NASHVILLE TENN
SCALE
LUBLOW & PEABODY, ARCHTS
12 WEST 31ST STREET
NEW YORK



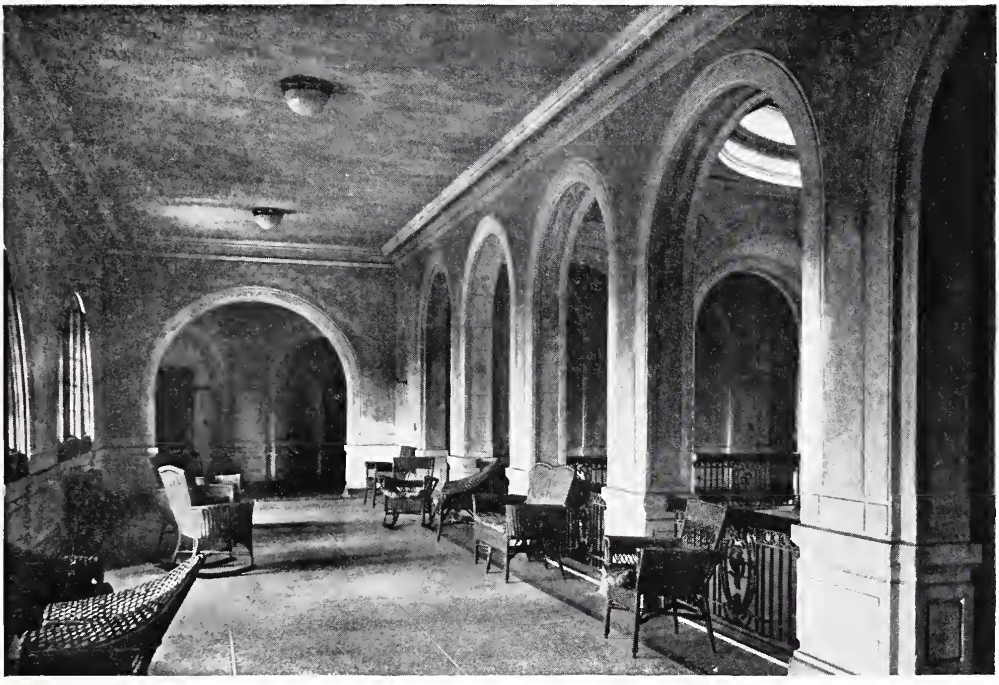
MAIN STAIRWAY IN MANUAL TRAINING BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.



MANUAL TRAINING BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.



MAIN STAIRWAY AT SECOND STORY, IN MANUAL TRAINING BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.



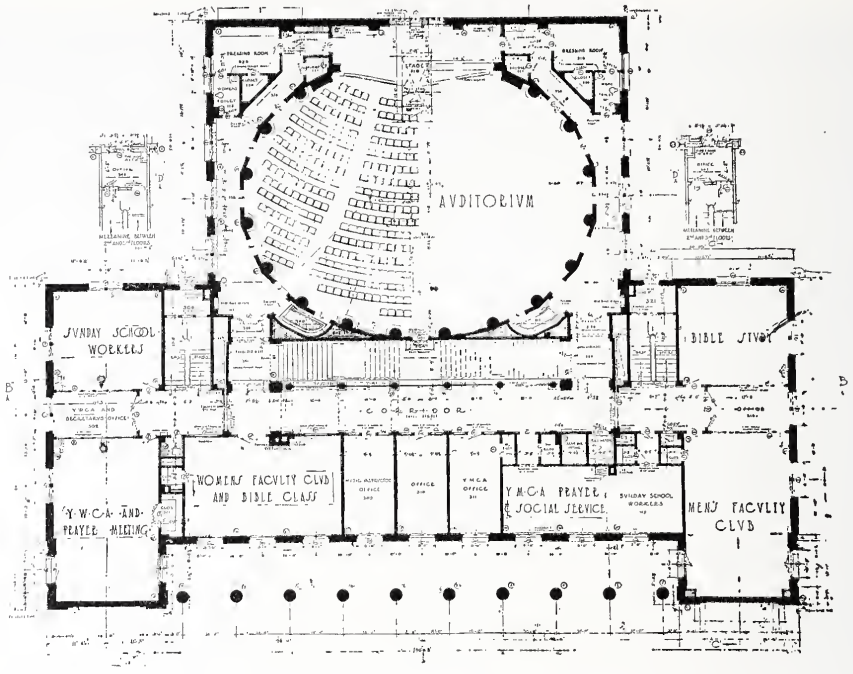
HALL ON SECOND STORY IN MANUAL TRAINING BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN.
Ludlow & Peabody, Architects.

the other. They are the women's dormitories, and their small area gives scale to the larger campus by providing a contrast in space relations. Here, on the focus of the cross-axis and of the main axis, is planned a large monument. The long narrow rectangles opening on the service roads at the rear of the campus buildings are occupied, the one on the east, behind the power station, by an experimental agricultural garden, and the one on the west by the infirmary.

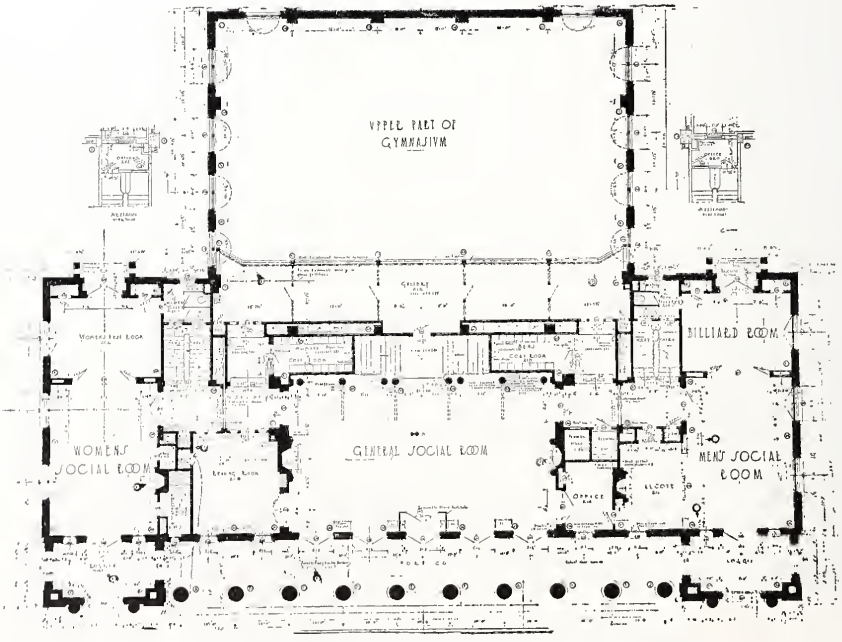
All the buildings are connected with an arcaded passageway one story high leading around the group.

Now, how does the general impression of the whole group stand out amid these features? How does it strike our eye as to its fitness for its ideal of an American university community? We may decide at once that the aspect is unusually favorable.

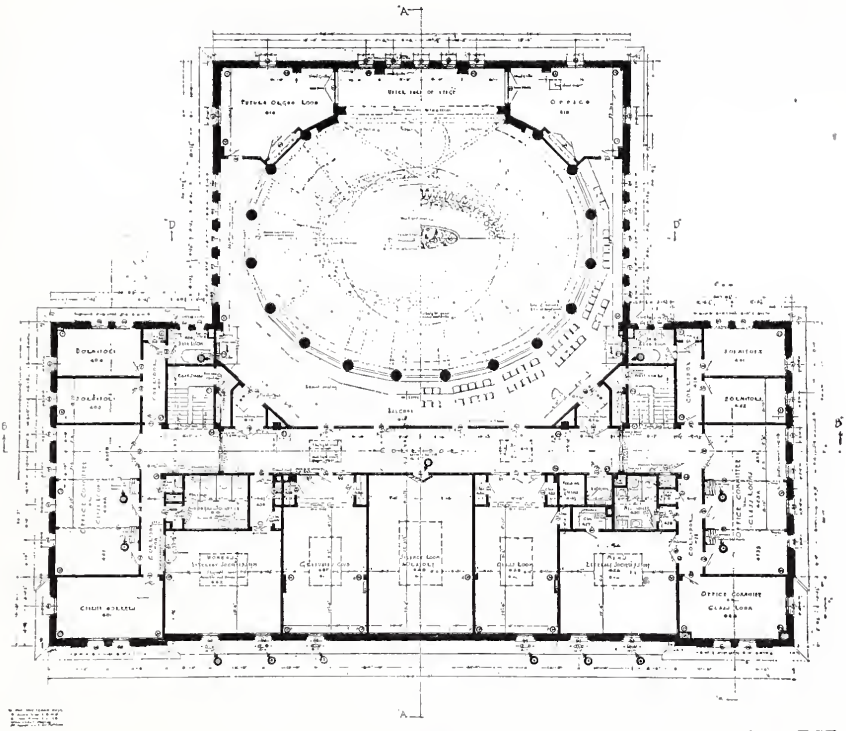
The buildings of red brick and limestone—limestone from Bowling Green, Kentucky, of the whiteness of marble—are excellently disposed with many niceties and with that precision of architectural skill that always appeals so strongly to the eye; in an effect of strict unity, yet with enough of contrasting arrangements and salients to avoid the tiresome expression that we have alluded to as characteristic of some other groupings—all set out by plentiful trees of magnolia and hackberry in the southern landscape of Tennessee. Just how successful the effect is will hardly be realized from the perspective, since it exaggerates perhaps the openness of the groups. To understand the truth of the picture one must understand its dimensions. The lower campus is about 450 feet deep from the main entrance to the steps that ascend to the upper campus. The width of the upper campus, between buildings, is some 250 feet. This is only slightly more than one of the short city blocks on Fifth Avenue, New York, where the streets are about 260 feet from centre to centre. The intimate scale of the plan becomes apparent when we realize its smallness. The court at the Social-Religious building is especially successful in this respect, though perhaps the



SECOND FLOOR PLAN, SOCIAL-RELIGIOUS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN.
Ludlow & Peabody, Architects.



FIRST FLOOR PLAN, SOCIAL-RELIGIOUS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN.
Ludlow & Peabody, Architects.



THIRD FLOOR PLAN, SOCIAL-RELIGIOUS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN.
Ludlow & Peabody, Architects.

most decisive appreciation of the scale will be gained by understanding that the whole length of the group along the main axis, from the steps of the Social-Religious building down to the gate, is only some 1,300 feet. This is about twice the length of the court formed by the old buildings in the Harvard Yard—a court which has always been admired as a wonderfully perfect expression of the domestic scale of an American university. Since one of the two campus courts of Peabody College is a little larger than the dormitory group of Harvard and the other a little smaller, we see that they maintain in their group plan the homelike character of early American architecture. In this, as well as in the general type of columnar structures linked by one-story passageways, they recall somewhat the University of Virginia. It is of interest here to know that the president of the George Peabody College, Mr. Bruce R. Payne, in whose term the buildings were designed, is a former professor of the University of Virginia. President Payne symbolized the priceless educational value of fine university architecture by remarking that "every big column on the campus is worth a thousand dollars."

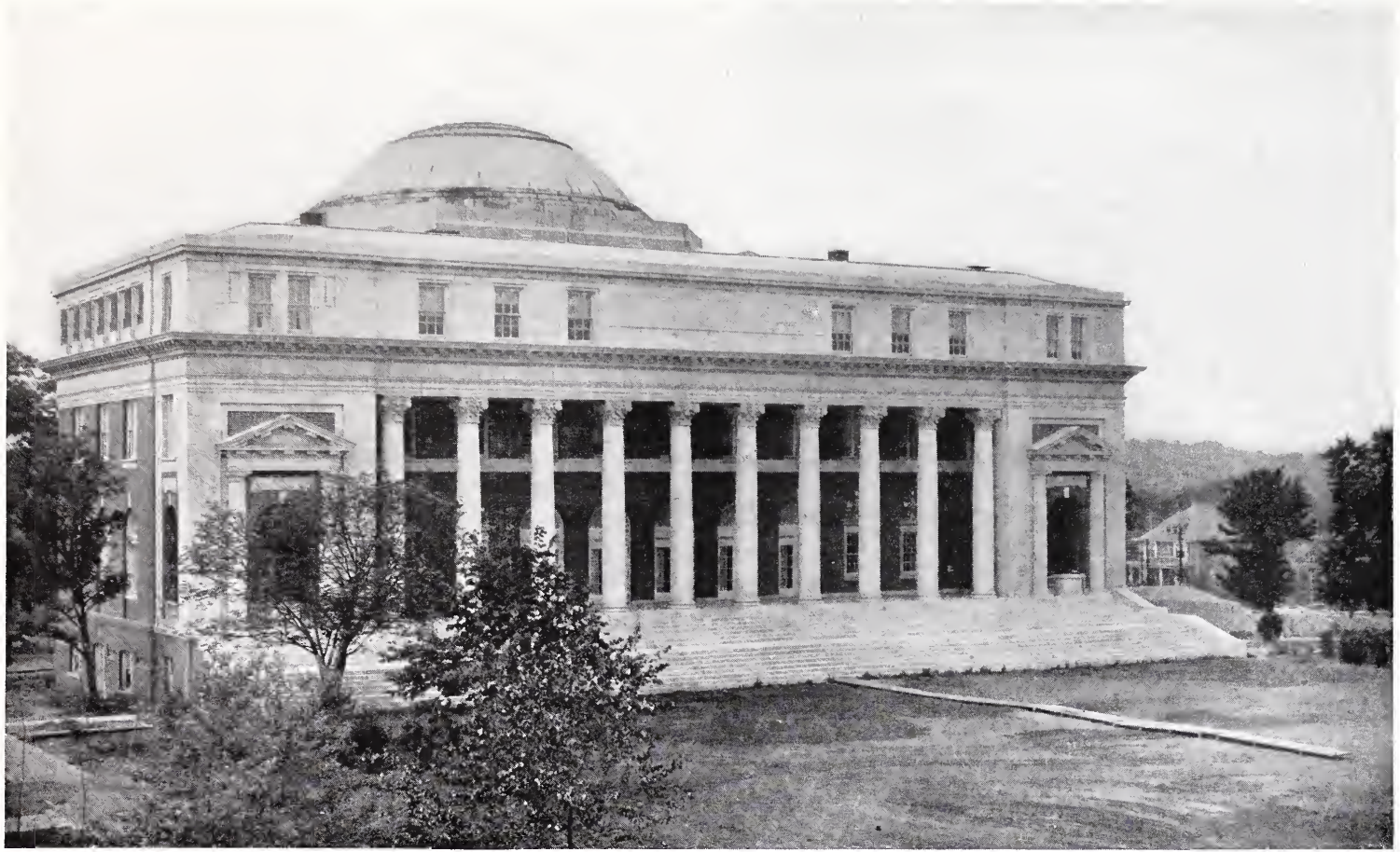
With an understanding of the characteristics of the George Peabody College for Teachers, the different buildings become more easily understood. At present four of these have been completed, the Social-Religious, the Manual Training and Power House, the Domestic Economy and the Psychology. The Psychology building, No. 23 on the block plan, is perhaps the most successful of the group in its simple, good proportions. Inside, the plan is typical of the academic building occupied by recitation rooms and small laboratories—that is, an oblong building with a transverse hallway in the centre, stairs at each end, and rooms along the outside walls. This eminently practical arrangement the architects have at Peabody enlivened with a two-story entrance



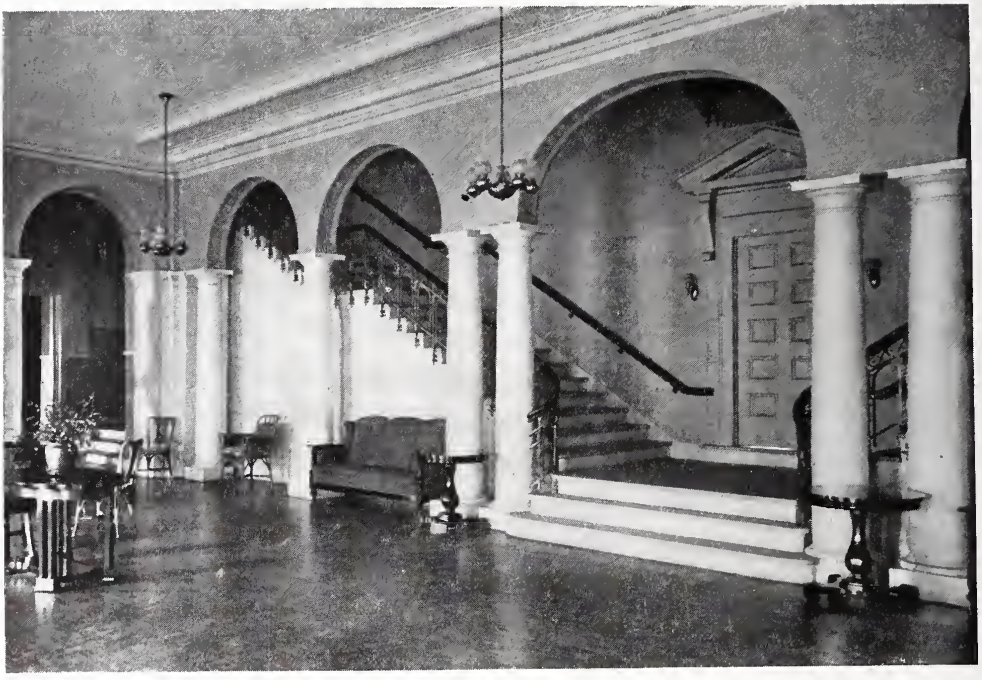
ENTRANCE HALL IN SOCIAL-RELIGIOUS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN.
Ludlow & Peabody, Architects.

hall of elliptical vaulted ceiling and pilastered walls. If the Psychology building is the most successful of all four of the group, the Household Arts building nearly equals it. Its Ionic order is beautifully detailed and the flanking pavilions are well proportioned. To an architect the near corner shown in the photograph will be instructive. It shows that the designers have been bold enough to stop the entablature at the sides of the portico, and have carried only the cornice around the building, instead of the more usual—only too usual—way of allowing the whole white band of cornice, frieze, and architrave to rest on plain walls, where the lack of strong lines makes a top-heavy appearance. This technical stratagem has been employed in two of the other buildings, where the transition has been made more successfully than in this one. A further study of this corner angle shows that the rectangular windows on the second story scarcely harmonize with the fine oval windows of the portico. There is also—and this is really a matter of draughtsmanship—the somewhat unfortunate slight break at the end of the columns continuing the inside line of the piers. As a result of this break the colonnade becomes a recessed one, thus giving it a weak form from the point of view of archtectural design. Whatever one may think of them, these slight details are hardly noticeable in the well-designed whole.

The building devoted to domestic economy or household arts (No. 14 on the plan) is much larger than the psychology structure, which accounts for its situation closing the cross-axis of the lower campus on the east. In its general arrangement it resembles the latter. It contains rooms for housewifery, dressmaking and millinery, an exhibition hall, three domestic laboratories and a library. Exteriorly it presents a fine appearance that is only slightly affected by the somewhat unfortunate spotting of the white and red colors in the piers flanking the columns. One feels also that the huge white rectangular border, with its unusually long window,



SOCIAL-RELIGIOUS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN. LUDLOW & PEABODY, ARCHITECTS.



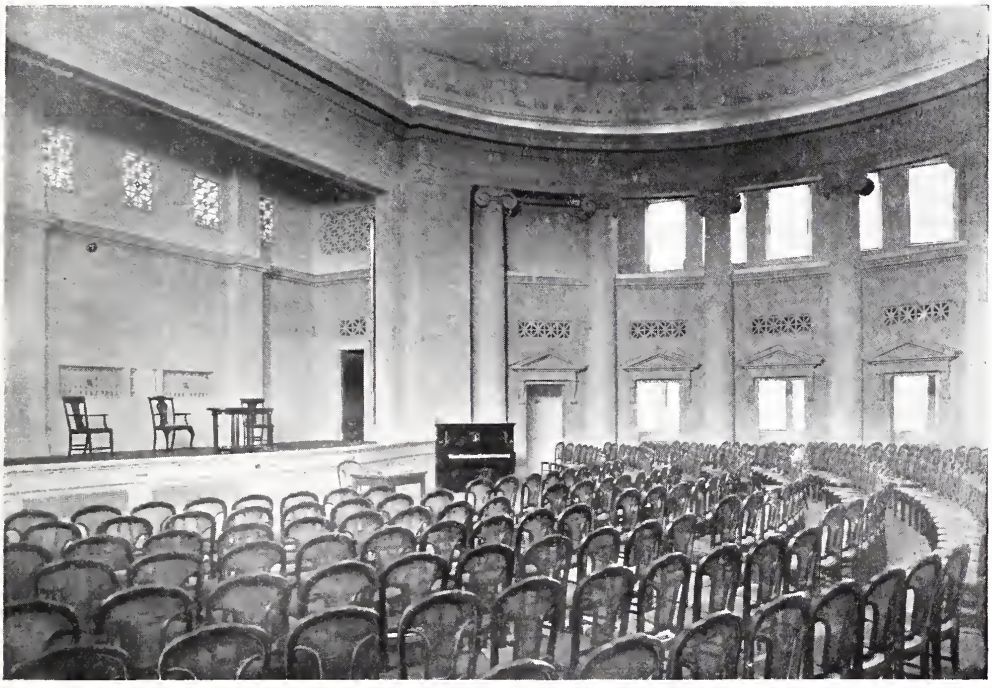
SOCIAL HALL IN SOCIAL-RELIGIOUS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN.
Ludlow & Peabody, Architects.

is too strong a motive for the columns, whose dominating importance is lessened by what should be a subsidiary motive.

In the structure occupied by the Manual Training Department and the power plant —No. 12 on the plan—in the southeast corner of the lower campus adjoining the Household Arts, is to be noted a skillful solution of the technical problems arising in an angular shaped plan. The mass of the structure is admirable, though the same fault of spottiness that was noted in the preceding building is perceptible here to a greater degree. This is especially apparent in the attic over the pediment, where the quoins seem out of character with the severity of the columns. The brick spots in the piers on each side of the pediment stand out more strongly than the columns, and might better have been omitted, leaving the piers all white. The banding elements at the second story heights do not seem altogether effective. Such items are not fundamental: they are details that may look well in a drawing, but in execution they show that draughtsmanship has been mistaken for architecture. In this case they detract somewhat from the excellent detailing of the order, a matter for regret since the order in itself furnishes all the interest and importance necessary to the design and does not need further tricking out to become effective.

Inside, the monumental stairway and hall may cause some surprise in so utilitarian a building; but they are merely another illustration of splendid realization by the authorities of the College of the moral value of fine architecture. The photographs show them to be an altogether admirable piece of design, of fine purity of proportions.

The Social-Religious building is the crowning feature of the whole plan. Its name may have aroused some curiosity in the reader's mind. It deserves, therefore, a word of explanation, for its purpose is characteristic of that latest phase of American education that aims to make religion more vital by making it more social. Thus the building typifies life in its design, aims to express the idea that religion is a part of life rather than



AUDITORIUM IN SOCIAL-RELIGIOUS BUILDING—GEORGE PEABODY COLLEGE FOR TEACHERS, NASHVILLE, TENN.
Ludlow & Peabody, Architects.

apart from it. The architectural elements of the plan disclose its purposes immediately. The entrance is through the colonnade into the social-religious room fifty feet wide and thirty feet long, out of which opens on the left an alcove for billiards, and on the right the women's social-religious room, a rest room and a reading room. To the rear is the gallery over the gymnasium, fifty-seven feet by seventy-six feet, whose floor is at the basement level, under which is the swimming pool sixty feet by twenty feet, in a sub-basement, and over which, on the second floor, is the great elliptical auditorium. On the second floor are various smaller rooms for prayer meetings, Bible classes, social service, Sunday school workers, the Y. M. C. A. and faculty clubs. The third floor contains similar rooms, including space for a literary society and for charity workers. Besides the swimming pool arrangements in the basement, there are ample kitchen and laundry facilities. Thus, in one building are housed most of those extra-curriculum activities so significant of Anglo-Saxon undergraduate life, which, indeed, are the real factors that determine the character of our university life.

The exterior of this main building is not complete, because it is inseparable both from the buildings that are to flank it and from the colonnades and amphitheatre steps of the open-air forum mentioned above. Therefore, as it stands now alone, it is unavoidably chunky, and its horizontal cornice and attic belt course are necessarily less significant than they will be when the group is completed. It appears practically as a stone building, since the brick wall behind the columns is hardly apparent. Here also are apparent the faults noticed in the other groupings —namely, the recessed colonnade, the over accenting of the pavilions flanking the portico at the expense of the columns. The smaller shafts and the pediment appear too high for the main order. The dome is effective, and as a technical detail it is worth recording that it was studied carefully on a clay model so ar-

ranged that the various distances in the group corresponding to the important points of view were scaled off, and templates with sight points provided to observe how the dome would appear in perspective.

Interiorly, the Social-Religious building is capably designed, especially the fine entrance hall and main stairs. Though the smaller rooms are also effective, one would prefer the cornices and door pediments somewhat lighter, more furniture-like, so to say, in detail.

A final word of practical details is of interest. Realizing that education evolves swiftly, the floors and outside walls were assumed to be the only permanent elements of construction, except for vertical shafts at intervals which were put in to accommodate the various pipings and risers. All the rest is plaster block partitions that may be easily rearranged at any time. Fire-resisting construction is the rule. Flat roofs on all four buildings, except the Psychology building, provide space for the summer classes under awnings. Although Peabody College is in the South, it was thought well to install a complete ventilating and heating system, which latter is of the vacuum type.

Obviously more might be said of this great scheme, so typical of American college expansion, so ably expressive of its needs. It will be interesting to observe its progress, to see what will be done with it as the years pass, to note how the original scheme of the Peabody College for Teachers evolves. We may justly say of it that it expresses in great unity the purposes and traditions of higher American education.



POWER HOUSE CHIMNEY—GEORGE PEABODY COLLEGE, NASHVILLE, TENN.

HOMEWOOD BALTIMORE, MD.

Text and Photographs by John Martin Hammond
Measured Drawings by Joseph V. Phelan

PART II.

THE decoration of Homewood is one of its most interesting features, and while it has been found possible to present drawings* which show its essential parts, it is nevertheless just as well to call attention to some of its chief characteristics.

To begin with, there is evidence of a very strong individuality, except in the selection of the mantels of the four rooms, which I am forced to conclude are of a later period than that of the building. They are commonplace in aspect, and not in harmony at all with the motif of the decoration of the halls and the rest of the building generally. No doubt they were installed by some later occupant of the house, say of about 1870 or 1880.

The base of the decorative scheme is a running loop, or vine design, which is repeated with variations in the cornice, the wainscot base, the pilasters of arches, and other points where decoration is needed. On the main pilasters of the hall the loop is contracted so as to be almost a circle; elsewhere it is oval in form. The Grecian fret, so frequently seen, or any angular suggestion, is conspicuous by its absence. This recurring circle seems to be the theme.

The observer of the exterior of Homewood is immediately struck by the fine proportion of the masses and the decorative arrangement of the windows. Over the windows of the central portion are tablets which immensely help the general effect. The building is really low for its length, but the four large pillars of the porch, the tablets over the windows, and the narrowness of the windows in proportion to their height, all help to give an airiness or illusion of height to the structure which really makes you think of it at first as inclined to be high rather than low. This illusion is aided by the pointed character of the roof, finished in a high cupola, which has itself a pointed roof.

Since beauty may be defined as the correct proportioning of parts with relation to the whole, and in consideration of the needs of the moment, it is not difficult to understand the attractiveness of this old home. Whether architects or artists, all passers-by stop to look at it, and it has a place in the affections of the people of Baltimore far out of proportion to its historic or allusive interest.

The setting back of the wings of the house, which we have before referred to, helps to make up the beauty of the exterior. Here we have the central portion firmly set forward, the windows gazing out over the wide panorama which is to be gained from the front of the house. And there are the wings, modestly retiring beside the larger mass, though no small things in themselves, as one sees who goes to the back of the house.

While the front of the house is stately, the back is no less charming in its own way. Here was the old garden, of which a few bushes still remain beside the steps leading up to the porch of the main portion. The wings enclose this space, giving a cloistered, shut-in effect. Tall trees, remnants of the forest which once spread in back of the house, shade this silence.

The decoration of the exterior is to be

*Four inset plates of measured drawings will be found opposite page 576.



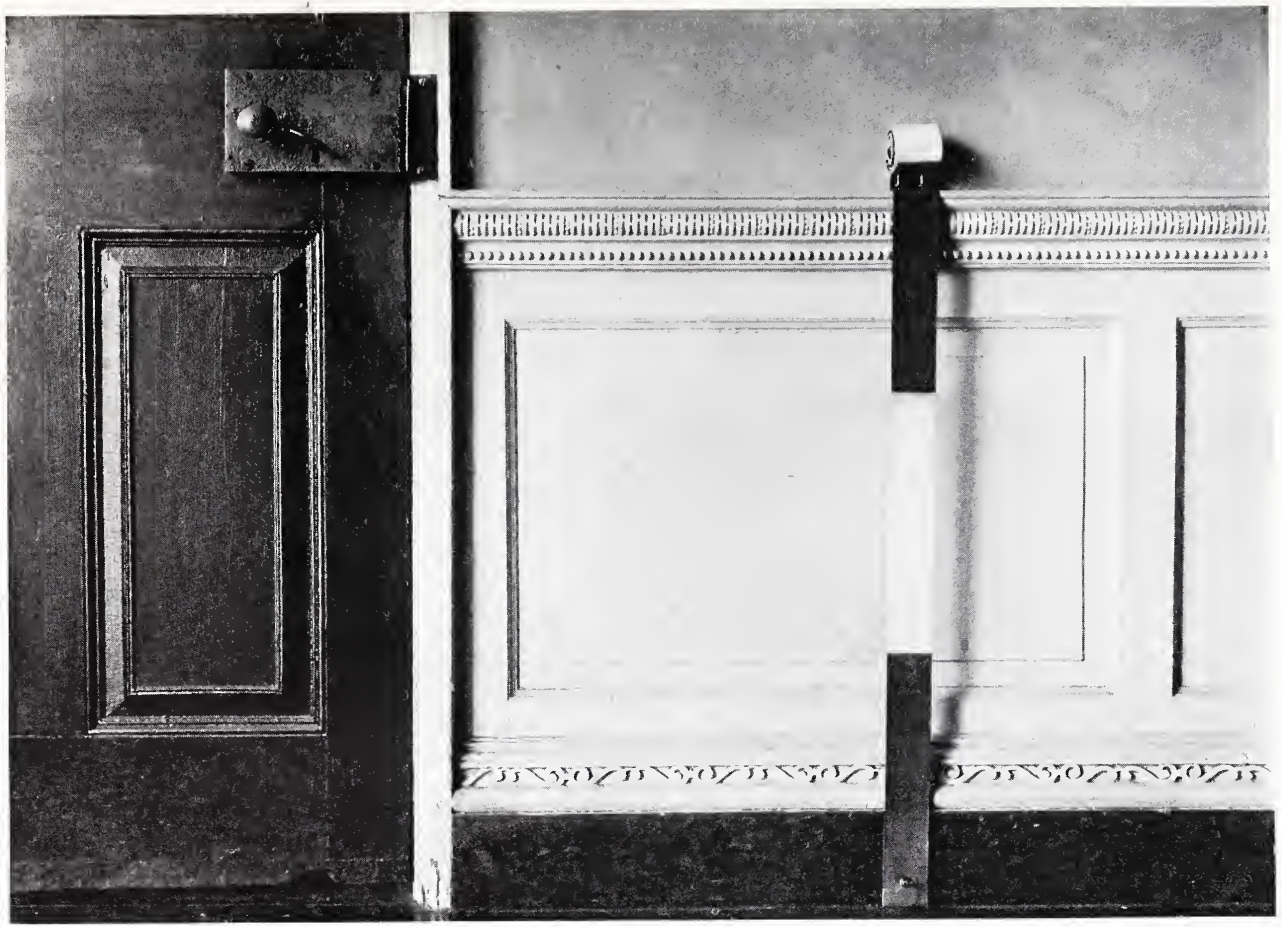
DETAIL OF DOORWAY FROM LIVING ROOM TO SOUTH HALL—HOMEWOOD, BALTIMORE, MD.



DOORWAY FROM LIVING ROOM TO SOUTH HALL—HOMEWOOD, BALTIMORE, MD.



MANTEL IN LIVING ROOM—
HOMEWOOD, BALTIMORE, MD.



DETAIL OF WAINSCOTING OF HALL—HOMEWOOD, BALTIMORE, MD. THE DOOR WITH OLD LOCK GIVES ACCESS TO STAIRS TO SECOND FLOOR.



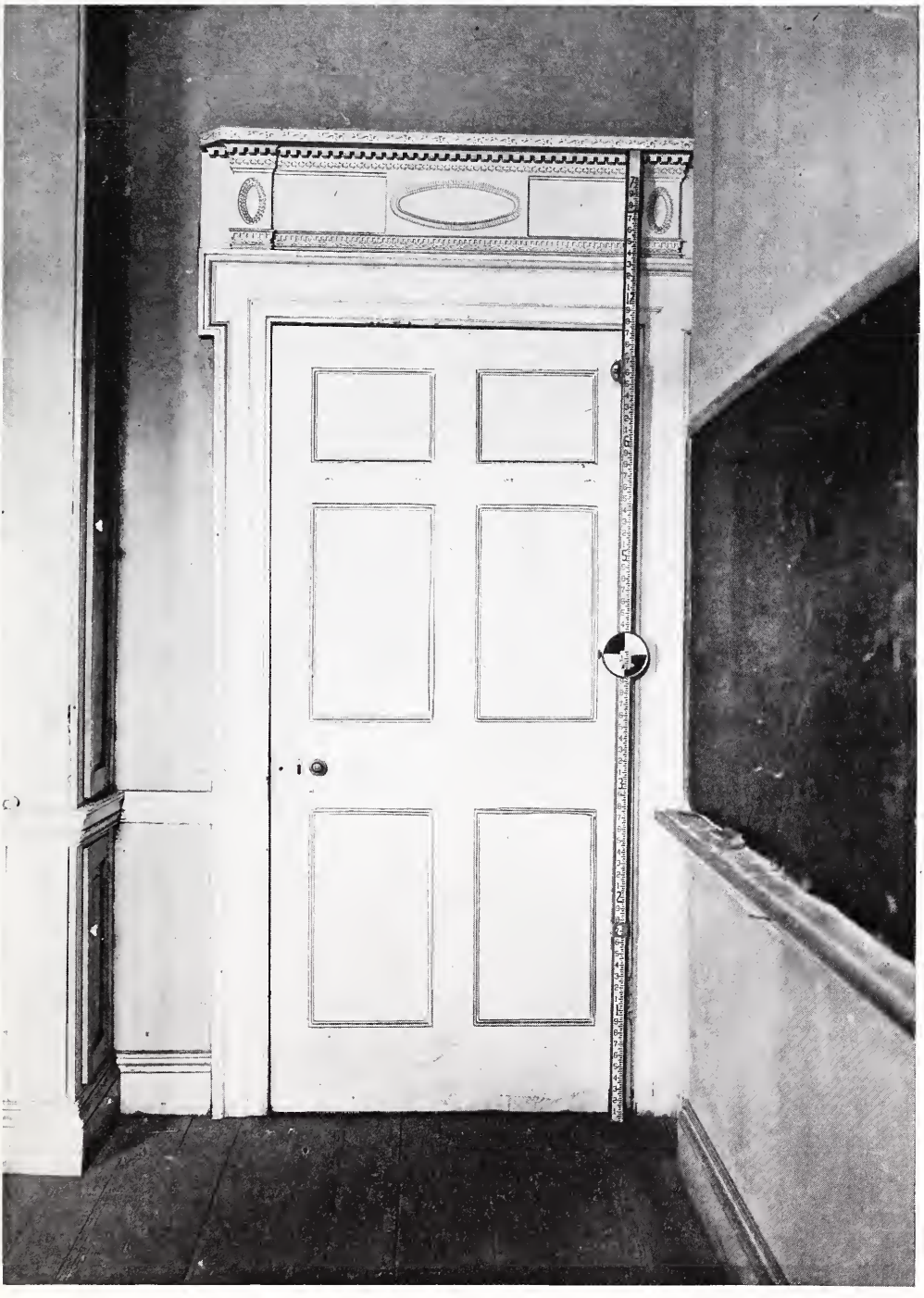
DOORWAY FROM LIVING ROOM TO CORRIDOR—HOMEWOOD, BALTIMORE, MD.



MANTEL IN NORTHEAST BEDROOM, MAIN STRUCTURE, HOMEWOOD, BALTIMORE, MD.



WINDOW IN WING CORRIDOR—
HOMEWOOD, BALTIMORE, MD.



DOORWAY OF STATE ROOM—
HOMEWOOD, BALTIMORE, MD.



MANTEL IN STATE ROOM—
HOMEWOOD, BALTIMORE, MD.



THE BARN—HOMEWOOD, BALTIMORE, MD.

found in the central portion of the house, as in the interior, and has been sufficiently suggested in the drawings which accompany this article. The theme of the cornice of the main portion is repeated in a much simpler form in the cornice of the wings.

One of the very striking portions of the exterior is the composition of the doorway and the two windows in the front of the connecting portion, between the main building and the wings. The doorway is flat; the windows are arched and are three-portioned. The photograph shows this. Channeled brown-stone steps lead from the doorway to the ground, and a small brick path carries the line on out to the front of the house.

A detailed chronology of the house would not be difficult to prepare, but would be, perhaps, of small interest to the majority of architects. It might be of interest, however, to summarize the chief points of the history of Homewood. After its erection the house was occupied by Charles Carroll, son of Charles Carroll of Carrollton, for twenty years, until his death. His children grew up here, and Charles Carroll, who became the inheritor of Doughoreagan Manor, the seat of long-lived old Charles Carroll, the Signer, his grandfather, upon the death of the latter in 1832, spent his boyhood and young manhood here. Eventually the house passed out of the possession of the Carroll family and then went through various hands, until it came into the possession of the late William Wyman, who in 1902 deeded the property, as part of a large tract of land, to Johns Hopkins University, to be used for a new home for the university.

It is pleasant to be able to conclude with the assurance that the beauties of Homewood will be well cared for, for a number of years at least, as the place has been acquired by the Johns Hopkins Club, a cherished institution of the university, as a home. The whole house with the exception of the attic has been renovated, but renovated in such a fashion that the atmosphere of the establishment has not been destroyed. The officers and trustees of the club may be depended upon to appreciate and preserve the architectural charms that have become their charge. The Johns Hopkins Club may also feel that it is lucky to have so beautiful and so well situated quarters. A matter of bows and smiles and compliments all around in quite the Georgian manner!



A HILL STREET IN AIX-LA-CHAPELLE.
PENCIL SKETCH BY VERNON HOWE BAILEY.

Some Sketches of Vernon Howe Bailey's

By Electus D. Litchfield

SOME poetical person once said, "The eye is the window of the soul." It is a pretty idea, but it does not at all appeal to me. The eye, it seems to me, is something very different from that, or, rather, something much more than that. The eye, and the nose, and the ear strike me as much more than squares of glass or telephone instruments from which are transmitted to the brain, mechanically, electrically or how and as you please, a message of outside things. They are really quite temperamental beings, full of moods, controlling, it is true, a certain nerve or sensory apparatus of the brain, but passing on such impressions, sometimes correctly, sometimes not, dependent on their whimsical humor or on the particular mood in which the occasion finds them.

All three of them have the most vivid imagination and share a somewhat humorous joy in being deceived. Memory, too, is strongly developed in them; and they take a peculiar pleasure in what has been before, or elsewhere.

Who has not received the joyous message sent back to the brain by the odor of hot cross buns floating up from the basement of a neighboring bake-shop, or the vision of the circus in all its splendor thrown on the screen by the subtle odor of the monkeys' cage; or, again, the picture of the excursion boat brought up by the pungent smell of spices and roasting coffee which the New Yorker is sure to find close to the corner of Wall and Front or Barclay and Greenwich streets?

How pleased is the ear when it can send back a message that some musical instrument has made it almost believe it could hear a mother crooning over the cradle of her baby; or the old mill wheel creaking and groaning at its work; or the storm grumbling in the distance. Strange, isn't it? for when it hears the real thing it telegraphs the message that it is bored to death; and, is there no place where one can get a little quiet; or let's hurry up and get out of the sound of the creaking of the old thing; or let's close the windows and shut out the storm.

The eye is much the same. It, too, takes joy in being deceived and shouts with glee when it discovers the attempt. It calls perfect work stupid and joys in the transplanting of things so long as the transplanting is not too obvious. It is fickle and temperamental. The more it becomes educated the less accurate it wants anything. To the untrained eye a clear and distinct photograph has charms. Not so with the

educated organ. A hazy photograph or a few lines thrown together—the fewer the better, if properly placed—and the eye is charmed; or if it is a matter of color, give it a fruit salad of colors and so arrange them that they represent a landscape, and it is tickled to death.

Textures are the things which make the educated eye perfectly delighted and happy. A smooth blank wall is abhorrent; but a wall which seems uniform and correct but which on study is found to consist of a whole multitude of bricks and joints subtly varying in color makes it cry out with enthusiasm.

Have you never met an eye that was bubbling over with delight because it had just looked at a building which it thought was perfectly symmetrical and then had discovered that it really was not, but was so close to being symmetrical as to have deceived it?

Mr. Bailey is a gay deceiver and hence has met with abundant success. He throws a few lines together and smudges a little carbon on the paper and makes us think he is really drawing a building. Of course he isn't. It is pure fake. He puts in what pleases him and leaves out what doesn't and gets away with it; and he does it so well that we don't know what it is he has left out. What we do know is that when we try to tell the same story as his pen it sounds like an encyclopedia instead of a proclamation. Of course he gets away with it. If we could show our architectural drawings that way and only present to our clients the things they want to see and leave out the things they have to have, we could too. Mr. Bailey would be a good man to present an estimate on a country house these days.

But seriously, the sketches are really delightful things. They have all the charm of a Whistler or a Seymour Haden. Of the four that are published herewith, "A Hill Street in Aix-la-Chapelle" and "The Glimpse of Fifth Avenue with the Tower of St. Thomas' Church" are perhaps the most successful. How wonderfully those fly-specks down the middle of the street give one the effect of pedestrians winding their way through a crowd of street children shouting at their games! and in the Fifth Avenue sketch, how delightful is the indication of St. Thomas' tower contrasted with the black spots of the passing cabs and the house on the adjoining corner!

All of Mr. Bailey's sketches have a happy quality. I do not know why it is, though I suppose technically it may be because of the brilliant bright lights and the velvety shadows. But, after all, perhaps it is due to the temperament of Mr. Bailey himself. I remember Dan Beard used to say that an artist always caricatures himself in some way or other, and that he once identified a well known illustrator, fond of drawing the Colonial soldier, by the weight of his footsteps as he crossed the floor of Scribner's office; and cheeriness certainly is characteristic of Mr. Bailey himself.

Be that as it may, the results of his efforts are always charming and place in permanent form a valuable record of the too often rapidly passing beauties of the cityscape.



THE TOWER OF ST. THOMAS' CHURCH, NEW YORK.
PENCIL SKETCH BY VERNON HOWE BAILEY, 1916.



IN THE MILLING DISTRICT OF MINNEAPOLIS.
PENCIL SKETCH BY VERNON HOWE BAILEY.



THE LIBRARY OF COLUMBIA UNIVERSITY.
PENCIL SKETCH BY VERNON HOWE BAILEY.

POPULAR EDUCATION IN ARCHITECTURE AND LANDSCAPE GARDENING



A Summary of The Work of Federal and State Agencies



BY CARL F. PILAT

NOTABLE changes are taking place in the rural districts of America. There is a general stirring for better houses, better schools and better public libraries. With larger opportunities for work, recreation and education, it is hoped that the country will be able to compete for population on equal terms with the city. Furthermore, it is believed that a general advance in the economic, educational and social conditions of the rural population will create a situation favorable to the development of a spirit of cooperation between the city and the country, not merely for mutual benefit, but in the interest of the nation as a whole.

There are, of course, many phases of the movement for "Rural Improvement," or, as a later phrase has it, "Country Planning;" but its inclusive aim is to increase the efficiency and, consequently, the prosperity of the farming population. The movement has been under way for some years and has, fortunately, progressed so far that, with a reorganization of market facilities, which can be quickly effected by the Federal, State and municipal governments, larger crops can be grown at once in response to the necessities of the war. The productive efficiency of the farming community has already been greatly improved, but as yet the full capacity for production has never been exercised, because of backward systems of marketing, for which the cities are mainly responsible and which have resulted in sub-normal profits to growers of farm products.

No small share of the enlargement in productive capacity is due to the replanning of farm homesteads for economy of operation. The dwelling-house and its ground—as indeed all other parts of the farm—have been remodeled for their own special uses and brought into proper relationship with each other. The study of farm organization, including the planning of dwellings and the arrangement of the grounds about them, has been prosecuted scientifically by the Department of Agriculture at Washington, by agricultural experiment stations and colleges, and by other agencies, and the knowledge thus obtained is being popularized on a broad scale.

The purpose of this review is to give a summary of the work of popular education in architecture and landscape gardening by Federal and State agencies in so far as it is related to the "Country Planning Movement." The work of the Federal Government is, of course, generally known; but it was a surprise to learn that so many as thirty-four State colleges and universities are engaged in popular education, either in architecture or in landscape gardening, or in both, as applied to farm homes. Letters of inquiry were addressed to fifty of the leading State colleges and universities, besides other agencies, and of the forty-four which replied all but ten maintain more or less complete organizations for popular rural education in these arts.

The following list comprises the Federal and State agencies which, according to the answers received in response to the

letters of inquiry referred to above, are engaged in disseminating knowledge of rural architecture or landscape gardening, or both, through publications, lectures or courses of instruction:

I. United States Department of Agriculture, Washington, D. C.

1. Bureau of Plant Industry.
2. Office of Public Roads and Rural Engineering.
3. Division of Publications, Farmers' Bulletins.
4. Experiment Stations Extension Division.
5. States Relations Service Office of Extension Work.
6. American Association of Farmers' Institute Workers.

An important feature of the work of the last three agencies is their cooperation with private associations for civic and rural improvement.

II. State Colleges and Universities.

1. California—University of California, College of Agriculture, Berkeley.
2. Colorado—Colorado State Agricultural College, Fort Collins.
3. Delaware—Delaware College, Agricultural Department, Newark.
4. Georgia—University of Georgia, College of Agriculture and Mechanic Arts, Athens.
5. Idaho—University of Idaho, College of Agriculture, Moscow.
6. Indiana—Purdue University, School of Agriculture, La Fayette.
7. Illinois—University of Illinois, College of Agriculture, Urbana.
8. Iowa—Iowa State College, Division of Agriculture, Ames.
9. Kansas—Kansas State Agricultural College, Manhattan.
10. Kentucky—State University of Kentucky, College of Agriculture, Lexington.
11. Maine—University of Maine, College of Agriculture, Orono.
12. Maryland—Maryland Agricultural College, College Park.
13. Massachusetts—Massachusetts Agricultural College, Amherst.
14. Minnesota—University of Minnesota, College of Agriculture, St. Anthony Park.
15. Missouri—University of Missouri, College of Agriculture, Columbia.
16. Nebraska—University of Nebraska, School of Agriculture, Lincoln.
17. New Jersey—Rutgers College, New Brunswick.
18. New York—Cornell University, State College of Agriculture, Ithaca.
19. New York—Syracuse University, College of Agriculture, Syracuse.
20. North Carolina—North Carolina College of Agriculture, West Raleigh.
21. North Dakota—North Dakota Agricultural College, Fargo.
22. Ohio—Ohio State University, College of Agriculture, Columbus.
23. Oklahoma—Oklahoma Agriculture and Mechanic College, Stillwater.
24. Oregon—Oregon State Agricultural College, Corvallis.
25. Pennsylvania—Pennsylvania State College, School of Agriculture, State College.
26. South Carolina—Clemson Agricultural College, Clemson College.
27. Tennessee—University of Tennessee, College of Agriculture, Knoxville.
28. Texas—Agricultural and Mechanical College of Texas, College Station.
29. Utah—Agricultural College of Utah, Logan.
30. Vermont—University of Vermont, College of Agriculture, Burlington.
31. Virginia—Virginia Polytechnic Institute, Department of Agriculture, Blacksburg.
32. Washington—State College of Washington, Pullman.
33. West Virginia—West Virginia University, College of Agriculture, Morgantown.
34. Wisconsin—University of Wisconsin, College of Agriculture, Madison.

It is not the purpose here to list granges, women's clubs, art societies and other private associations which further popular education in architecture and landscape gardening. However, I may note that many of these help efficiently in calling attention to or disseminating information collected by the public agencies enumerated above, and some of them are doing valuable original work through exhibitions, lectures, and, more rarely, publications. A notable instance is the South Carolina Federation of Women's Clubs, Spartanburg, S. C., of which Mrs. F. W. Allen is president, and which has published a booklet entitled "Model Village Homes."

In the following paragraphs are summarized the more interesting of the replies received from colleges and universities.

GEORGIA

The College of Agriculture and Mechanic Arts of the University of Georgia gives instruction in farm architecture. The students are made to design and plan bungalows, barns and other farm buildings, and also learn the proper methods of constructing roads, walls, etc. Recently an extension man has been added, whose work consists mainly in distributing blueprints, etc., of suitable designs of country houses and farm buildings and in writing letters and making personal visits to inquirers.

Instruction in landscape gardening is given by the Department of Horticulture. The course is limited to the consideration of local problems, the treatment of roads, schoolhouses and homes, and the general improvement of rural conditions. The department assists any individual or community desiring to improve landscape conditions. This is frequently accomplished by correspondence and sketches, but more important problems are handled by personal visits. The ground is gone over and a general layout prepared. The owner pays the railroad fare and board of the representative from the College of Agriculture. Many schools have taken advantage of this opportunity.

"The Southern Ruralist," which is published in Atlanta twice a month and has a circulation of approximately 250,000, although not a government paper, promotes interest in rural improvements. It makes a standing offer to subscribers of giving help in improving homes, provided an intelligent sketch with sufficient information concerning location and general topography is submitted. Most of these inquiries are studied and answered by the Department of Horticulture of the State College of Agriculture. The drawings and recommendations of various homes are published in the paper occasionally, so that all the subscribers derive a certain indirect benefit. The public school grounds of Athens are being improved and planted. Atlanta, Macon and several other towns are giving attention to the subject of civic improvements in consultation with the college.

SOUTH CAROLINA AND NORTH CAROLINA

Clemson College of South Carolina has a course on the improvement of rural school buildings. The North Carolina College of Agriculture and Mechanical Arts offers a course in landscape gardening to students of agriculture and extends its work among farmers.

MARYLAND

The Maryland Agricultural College, through its School of Horticulture, works for the improvement of home and school grounds. The college has made plans and supervised the planting of several farmhouses in various parts of the State to serve as demonstration plantings.

The college also makes plans and supervises the planting of rural schoolhouses, and pays part of the cost of the plants. In cooperation with the city government of Baltimore and the press, inspections were made of a large number of gardens, and advice was given as to treatment of soil and methods of combating insect and other garden troubles; reports of the work were published in the newspapers, and meetings were held in the City Hall. Illustrated lectures on "Beautifying the Home Grounds" and similar subjects are given under the auspices of farmers' institutes and civic clubs.

TEXAS

Texas is especially alert in civic improvement work, as is evidenced by recent State and local legislation and by the activities of commercial organizations, women's clubs, parent-teacher associations, and other local societies for the sanitation and beautification of towns and villages.

From the Agricultural and Mechanical College of Texas comes the report that the Department of Engineering sends out blueprints of all kinds of farm buildings; that a thousand of such prints were sent out in about a month's time to people interested; that the Department of Landscape Architecture is planning to send out blueprints of farm ornamentation to demonstration agents all over the State; and also plans of parks for small towns. The college experiments with plant materials to find out the trees, shrubs and vines suited to Texas conditions; gives lectures on home beautification in its various phases; and has a course in landscape architecture similar to that at Cornell University.

CALIFORNIA

The University of California some years ago organized a Division of Landscape Gardening and Horticulture for the purpose of offering professional training to those desiring to become practitioners in the art and also for the purpose of assisting people of the State who, as individuals or as communities, desire to improve their surroundings. The division has an especially valuable collection of sketch plans and blueprints showing solutions of problems in school design.

OREGON

The Oregon State Agricultural College is especially active in cooperative extension service in agriculture and home economics, and gives much valuable information through lectures and bulletins concerning farmhouses and grounds, and domestic architecture generally.

WASHINGTON

The State College of Washington, through its Department of Architecture and Landscape Architecture, disseminates knowledge by means of illustrated lectures and a magazine called "The Agriculturist," which has a wide distribution in the rural communities. This college maintains a draughting room from which it sends out plans and sketches for small country houses in cases where builders would not consult an architect. Many of the students who take the course in home design become teachers in the public and high schools, and thus spread knowledge of the subject throughout the communities with which they become identified. Excellent results from these teachings and influences are noticeable.

UTAH

The professor of applied art in the Agricultural College of Utah writes:

"In the State the chief organizations working to better our house architecture and landscape gardening are the Extension Division of the Agricultural College, the State Art Institute, the State Fair Civic Art Commission of Salt Lake City, and the Utah Association of Architects."

The College, through its Extension Division, gives illustrated talks and demonstrations relating to architecture, interior decoration and landscape gardening, to housekeepers' conferences and farmers' institutes.

In the college proper, courses in rural architecture, landscape gardening, architectural composition, interior decoration and the history of architecture are given; and contests in home designing are held from time to time. Free advice and instruction through the correspondence department of the college is offered.

One member of the board of the Art Institute is an architect, whose function it is to see that the good offices of the institute are brought to bear in behalf of architectural exhibits and lectures. The State Fair gives opportunity to manufacturers of housebuilding wares to make exhibits, and offers prizes for architectural designs and designs for interior decoration.

NEBRASKA

The School of Agriculture of the University of Nebraska has a civic improvement extension work along the lines of the activity at the Massachusetts Agricultural College, which was the first college to provide a professional course in landscape architecture. The college and the community work together. For instance, in carrying out the plans for a school, church or farm improvement, the men of the community do the grading, planting, etc., under the direction of a representative of the college. Plans for the rearrangement of buildings, walks, and drives on a farm are prepared, and the work is gradually carried out. Not much has yet been done for better architecture, but this is contemplated.

KANSAS

The Kansas State Agricultural College has for many years conducted a campaign for better farm buildings and home grounds through correspondence, lectures, demonstrations, and farmers' institutes, furnishing plans and suggestions; and since the organization of the Extension Service considerable work has been done in planning home grounds.

IOWA

Iowa State College, at Ames, Iowa, offers a complete undergraduate course in landscape architecture, the aim of which is to give those who expect to return to the farm a thorough understanding of the principles of landscape architecture as applied to the farmstead under Iowa conditions. Practical problems are taken up in the landscape design courses, the students entering into a sort of competition, and later they actually plant the accepted design. The problems are so selected as to cover the whole State.

The farmer is reached more directly through the extension service. The extension man delivers illustrated lectures along any line of landscape improvement that may interest any particular town or rural community; he advises farmers on

the arrangement of their home grounds and the arrangement of their farm buildings for convenience, economy of space and beauty of composition. Plans are made for the future development of the farmstead and every effort is made to aid the farmer in carrying out this plan. The extension man also lends his aid to the county institutes, and county short courses, and through the medium of women's clubs, granges, farmers' organizations and business clubs of all kinds.

During the Winter Short Course, of one week, which is attended by over two thousand people, special courses on the farm home and farm buildings are given and a special collection of photographs, building plans and building materials are on exhibition throughout the week.

Prizes have been offered for competitive plans for a house for the college farm; trained men work with the farmers in solving special problems; and frequent conferences are held with the division of home economics to take into account the important problems involved in the arrangement of the farm home.

MINNESOTA

The Minnesota State Art Commission publishes a monthly journal called "The Minnesotan," addressed to the "individual, the home and the community," which through its question department maintains a service unique of its kind. The subscription fee entitles the subscriber to a membership in the Minnesota State Art Society and to the advisory service of the Minnesota Chapter of the American Institute of Architects and of the American Society of Landscape Architects. Its advertising columns are of great practical value; all the products set forth have been investigated by the Minnesota Art Commission and the Minnesota Chapter of the American Institute of Architects, and readers have the privilege of consulting the editor regarding the merits of any building or decorative material, whether advertised in the paper or not. It serves on the esthetic as well as on the utilitarian side; and recognizes the need of art in its broad sense—"the systematic application of skill or knowledge in effecting a desired result" in all phases of home life. Mention is made, in a recent issue, of an exhibit of wall paper by the Minneapolis Institute of Arts, the first ever held by any American art institute, covering the range of both bad and good with specific criticism why one is good and another is bad.

WISCONSIN

An interesting feature of the activity of the College of Agriculture of the University of Wisconsin is the proposal to construct a model farm cottage on the agricultural campus, equipped with all modern improvements, including labor-saving devices tending to emancipate woman's life on the farm, a problem fully as important as the economic problems of production, marketing and distribution. It reports four departments doing active work for the betterment of rural conditions: The Department of Home Economics, the Department of Agricultural Engineering, the Department of Horticulture, concerned with problems relating to the embellishment of home grounds, and the Department of Agricultural Economics, dealing with social problems of all kinds.

ILLINOIS

A publication that deserves mention because of its originality and because it is so essentially American in spirit is an illustrated pamphlet, "The Prairie Spirit in Landscape Gardening," by Wilhelm Miller, brought out in November, 1915, by the Department of Horticulture of the University of Illinois. Its aim is to arouse the people of the State to the importance of utilizing the indigenous flora, and of developing native beauty instead of copying a foreign type. The contents are described in its sub-title: "What the people of Illinois have done and can do toward designing and planting public and private grounds for efficiency and beauty." Although addressed to the people of Illinois, its principles are applicable throughout the Middle West, and indeed throughout the country, and it has educational value in leading people to think in a constructive way about their environment.

INDIANA

Purdue University, Lafayette, Indiana, has a Department of Agricultural Ex-

tension, which disseminates information through demonstration work in planting school grounds and improving the surroundings of rural churches, cemeteries, and farmhouses. The Home Economics Division works along the line of interior decoration and house furnishing; there is as yet no direct campaign in farm architecture.

OHIO

Ohio State University, Columbus, has a College of Agriculture. Plans of various types of farm buildings are sent to farmers with suggestions and advice, if asked for; this work is to be extended to include plans for the farmhouse.

PENNSYLVANIA

The Pennsylvania State College, State College, Pa., has a course in Landscape Art, with emphasis on gardening. Information is disseminated by the college through correspondence, lectures and bulletins, and by personal advice and cooperation with school boards, civic clubs and shade tree commissions. Through a modified extension service the college is reaching farm districts in a very intimate manner. County farm agents and representatives of agricultural high schools meet at the college during the summer and pursue a course of study and secure information upon elementary landscape gardening in addition to other subjects necessary in their work.

MASSACHUSETTS

The work of the Massachusetts Agricultural College, Amherst, as the pioneer, is particularly interesting. The college offers a complete course in landscape gardening which trains students in the practice of the profession, and this department has done definite work in rural improvement through its extension service. Three experienced landscape gardeners are employed and the whole service is conducted in precisely the same form as any professional landscape architect's office. The Service places its corps of experts at the disposal of rural communities in every enterprise for civic betterment. Some of the most frequent problems to be dealt with are the improvement of school and play grounds, town commons, roads, street trees, cemeteries, station grounds, and reservations of all kinds. The Service is always glad to cooperate with county agents and farm bureaus, where these lack a trained landscape gardener.

NEW YORK

The New York State College of Forestry at Syracuse University prepares students for public service in city forestry and park administration. A brief series of lectures on architectural forms is given by a professor of the Department of Architecture.

Cornell, through its College of Agriculture, is widely known for its activity in rural improvement work. Practical advice is given in response to requests, which come from three sources: village improvement societies or villages wishing to organize such societies; the rural communities or villages of the State; and from individual owners of village or country homes. The college is impressed particularly with the importance of village improvement work, because this touches more people and arouses more interest than other phases of extension work.

The method of procedure is as follows: In case of a request from a village, a visit is paid during the course of the year, maps and photographs of the village being first procured from which slides may be made; information regarding the attitude of the people and the most imperative needs of the village from the point of view of the people is also obtained. Upon arrival in a town one or two public lectures are given which are illustrated with slides of the village. Other outdoor lectures about the village are given, the audience following from one important point to another, such as the village centre, schoolgrounds, main thoroughfares, etc. Also, one or two village homes are selected as good examples and lectures are given on the grounds. If the community has not already a village improvement society and is interested in organizing such an association, various methods are suggested that will accomplish this. Later a report, illustrated with maps and photographs, is addressed to the village, and still later, when the village needs more assistance or advice, the college follows

up the work, and seeks to sustain the interest that has been aroused.

Of great importance, in the opinion of the college, is the betterment of the rural school environment; not only will children care more for their early schooling and feel a greater attachment for their surroundings when their school environment has been pleasant, but they will grow up with an instinctive love for the simple and beautiful. Furthermore, rural schools are community centres and react on the grown-ups as well as the children.

During Farmers' Week the college sets aside two and a half days for what is known as a Round Table, to which people are invited to bring in sketch plans of their homes. These are roughly enlarged and discussed in the presence of all in attendance, detailed advice being given to the owner and general information to the others. Endeavor is made at all times to call attention to the importance of good architecture in all buildings.

ORIGIN OF COUNTRY PLANNING.

Rural improvement is now so generally accepted and so much a part of all organized community life that we are apt to forget that it is still in its infancy; and a short resume of the early history of the art of landscape gardening, of which it is an offshoot, may be in keeping.

Many of the statements in this brief outline are from a letter received by the author from Prof. E. A. Waugh of the Massachusetts Agricultural College, who has been making history in country planning.

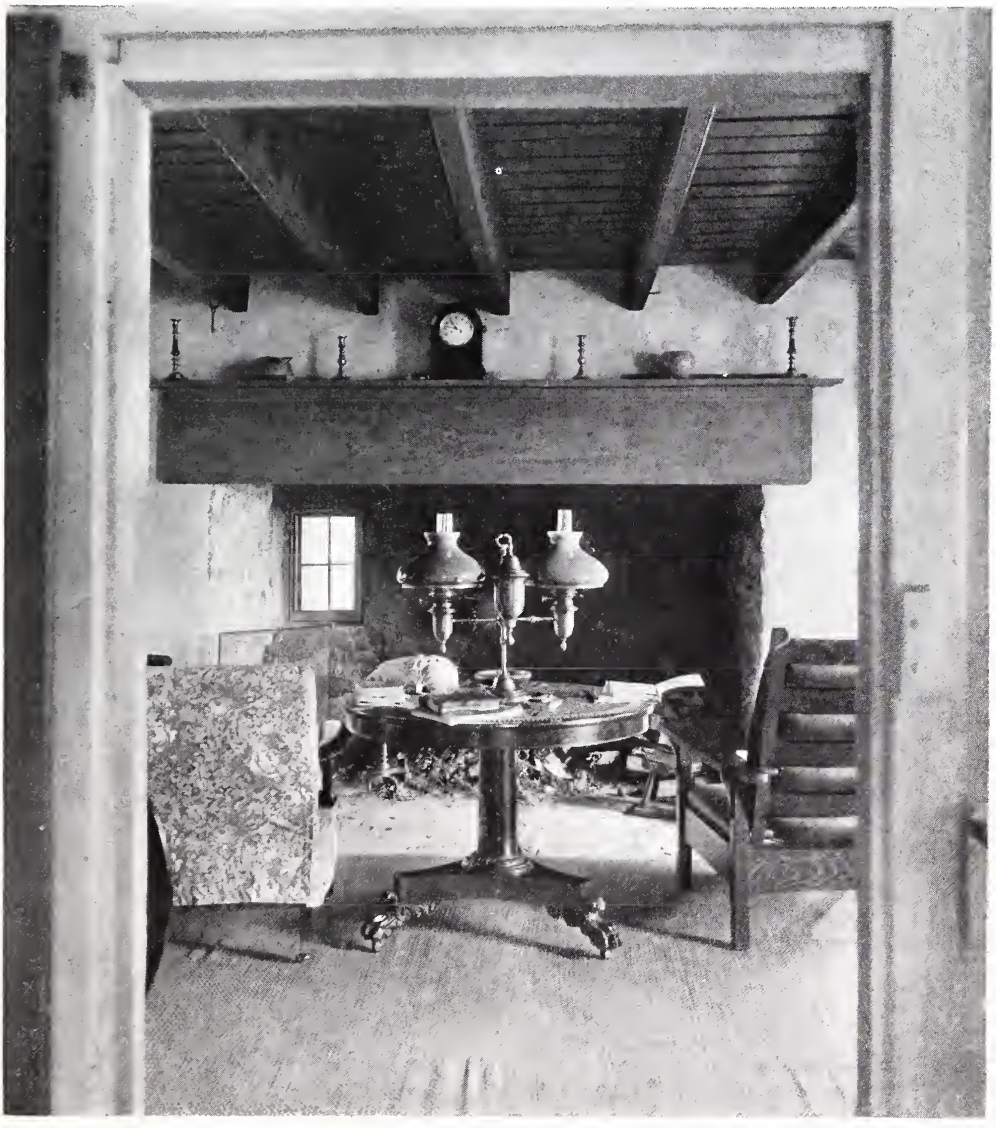
Up to about ten or fifteen years ago the principal influences working in the direction of rural improvement were apparently horticultural, and the most active and influential man in the horticultural field was Professor L. H. Bailey. His enthusiasm and wide knowledge, and his work as editor of the Rural Science Library and of that monumental work, the "Cyclopedia of American Horticulture," have placed him in the front rank of educators. Others who did work worthy of mention were Professor S. T. Maynard of Massachusetts and Professor L. R. Taft of Michigan. These men, through the written and spoken word, as well as their personal influence with students, scattered seed which took root in many parts of the country, and set many people who had drifted cityward to thinking that wealth and happiness were to be found on the old farm as well as on city pavements.

Doubtless the interest in landscape gardening in this country began seriously with Andrew Jackson Downing, whose books "Landscape Gardening and Rural Architecture" (1841), "Cottage Residences" (1842), and "Fruits and Fruit Trees of America" (1845), were long considered authorities on the subjects of which they treat. Mr. Downing was associated with Calvert Vaux, who in turn was immediately associated with the elder Olmsted; and in this way Downing's work had some influence with the Olmstedian tradition, which became the real starting point of our modern professional landscape architecture, although his direct influence was exercised chiefly through the various nurserymen and horticulturists in all parts of America.

Then came the development of the various city park systems throughout the United States, a distinct feature in the history of American landscape gardening, and in more recent time probably the most cogent influences have been, first, the movement for city planning; second, the establishment of distinct professional courses of instruction in landscape architecture in a number of colleges and universities, led by the Massachusetts Agricultural College at Amherst.

Still more recently, the work of the American Civic Association (Washington, D. C.) has had great influence. It is an association of progressive, public-minded men and women, but has no connection with either the State governments or the Federal government. It was founded in 1904 and holds annual meetings, at which papers prepared by authorities on various subjects of community improvement are read and discussed. Last year the association introduced the idea of "Country Planning," and a session was held on that subject. The literature of the American Civic Association covers in a systematic way the field of endeavor for community improvement — urban, suburban and rural.

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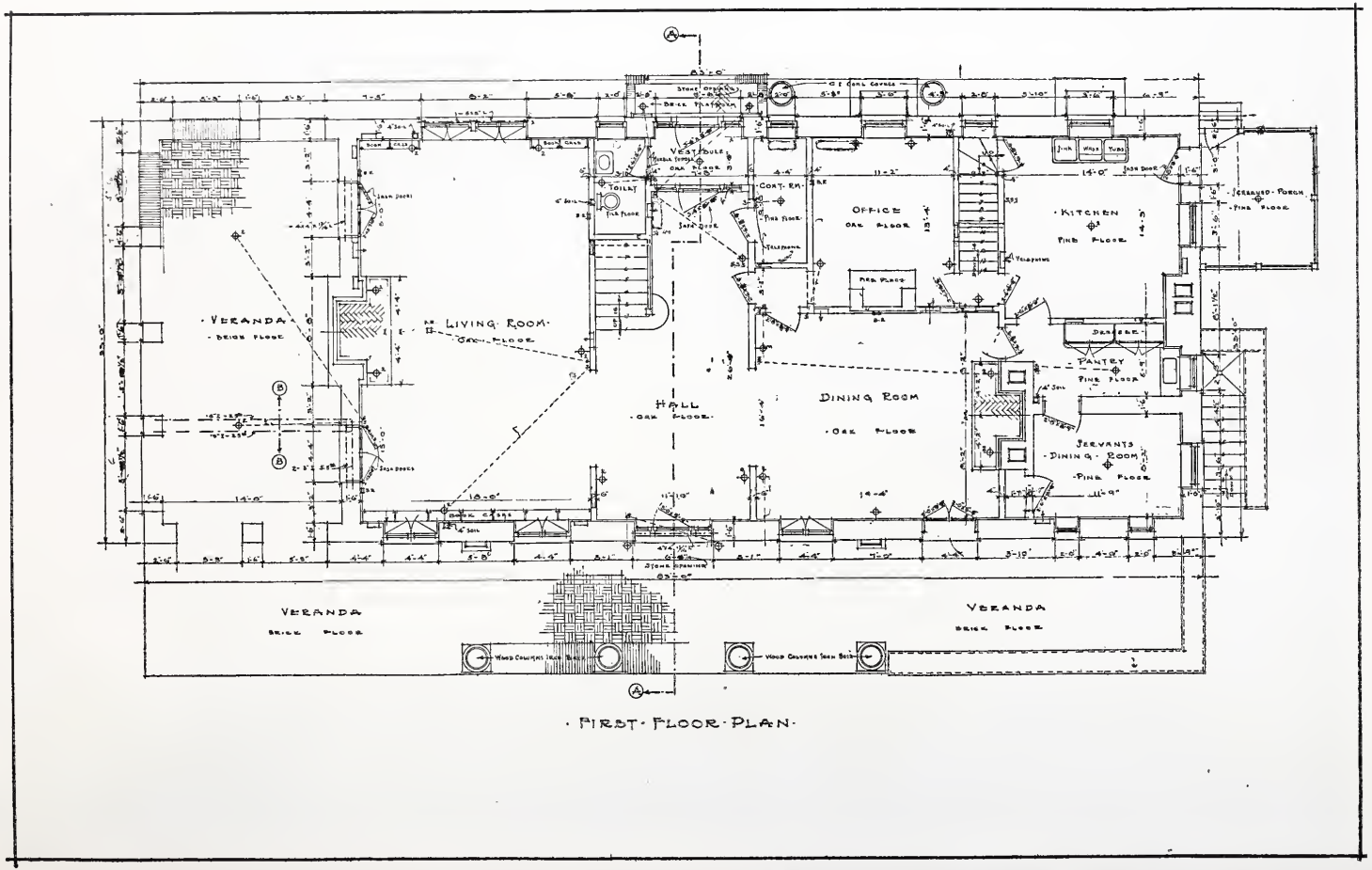
VIEW FROM DINING ROOM INTO LIVING ROOM—HOUSE OF E. Y. BROWN, JR., ESQ., DOWNINGTOWN, PA. WINDOW IN FIREPLACE IS OLD. MELLOR & MEIGS, ARCHITECTS.



REAR VIEW—RESIDENCE OF P. J. GOSSLER, ESQ., NEW CANAAN, CONN. FREDERICK JUNIUS STERNER, ARCHITECT.



RESIDENCE OF P. J. GOSSLER, ESQ., NEW CANAAN, CONN. FREDERICK JUNIUS STERNER, ARCHITECT.



FIRST FLOOR PLAN—RESIDENCE OF P. J. GOSSLER, ESQ., NEW CANAAN, CONN. FREDERICK JUNIUS STERNER, ARCHITECT.



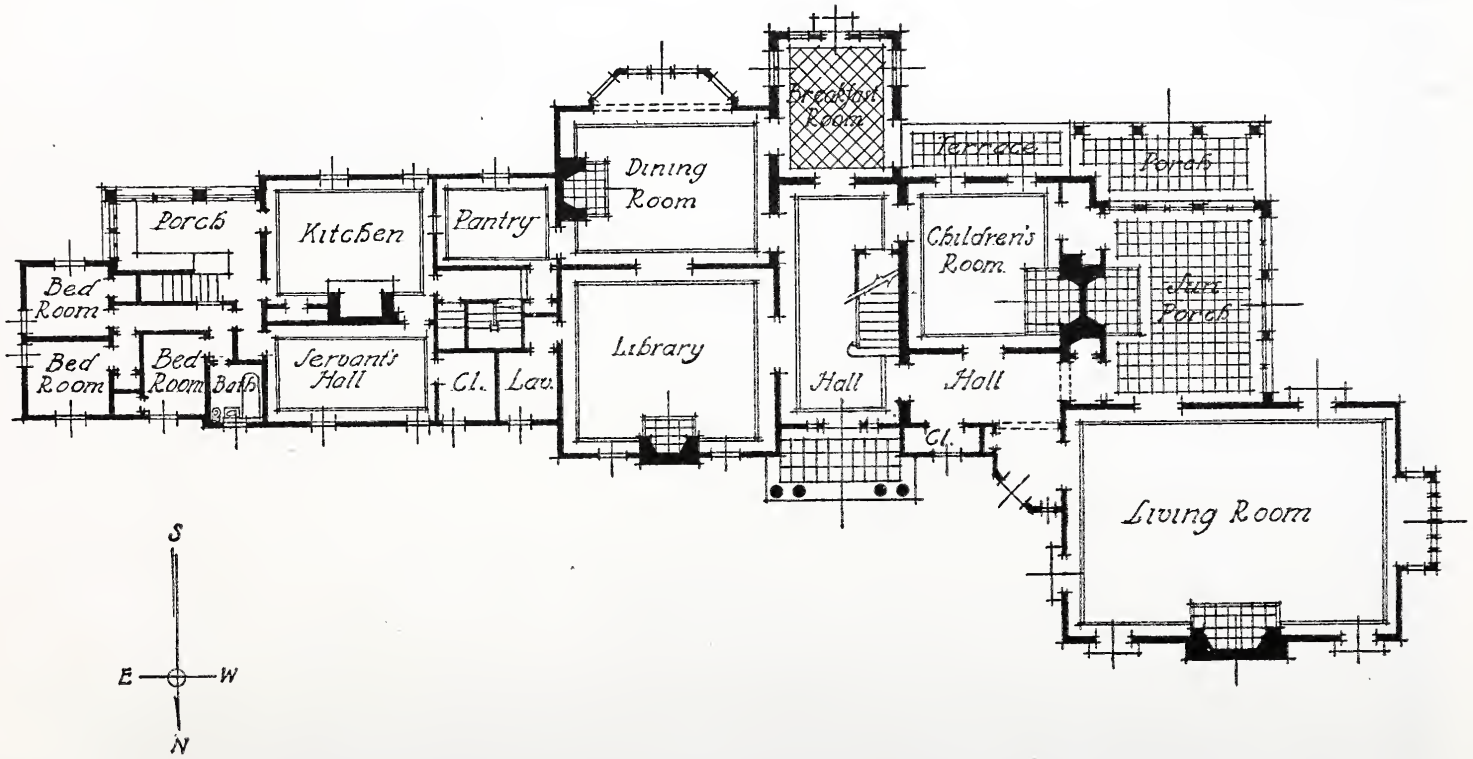
SUNKEN GARDEN AT EAST END OF TERRACE—RESIDENCE OF P. J. GOSSLER, ESQ., NEW CANAAN, CONN. FREDERICK JUNIUS STERNER, ARCHITECT.



REAR VIEW—RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I. F. BURRALL HOFFMAN, JR., ARCHITECT.



RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I. F. BURRALL HOFFMAN, JR., ARCHITECT.



FIRST FLOOR PLAN—RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I. F. BURRALL HOFFMAN, JR., ARCHITECT.



ENTRANCE—RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I. F. BURRALL HOFFMAN, JR., ARCHITECT.



DINING ROOM—RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I.
F. Burrall Hoffman, Jr., Architect.



STAIRWAY—RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I.
F. Burrall Hoffman, Jr., Architect.



HALL—RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I.
F. Burrall Hoffman, Jr., Architect.



HALL—RESIDENCE OF C. C. RUMSEY, ESQ., WHEATLEY HILLS, L. I.
F. Burrall Hoffman, Jr., Architect.



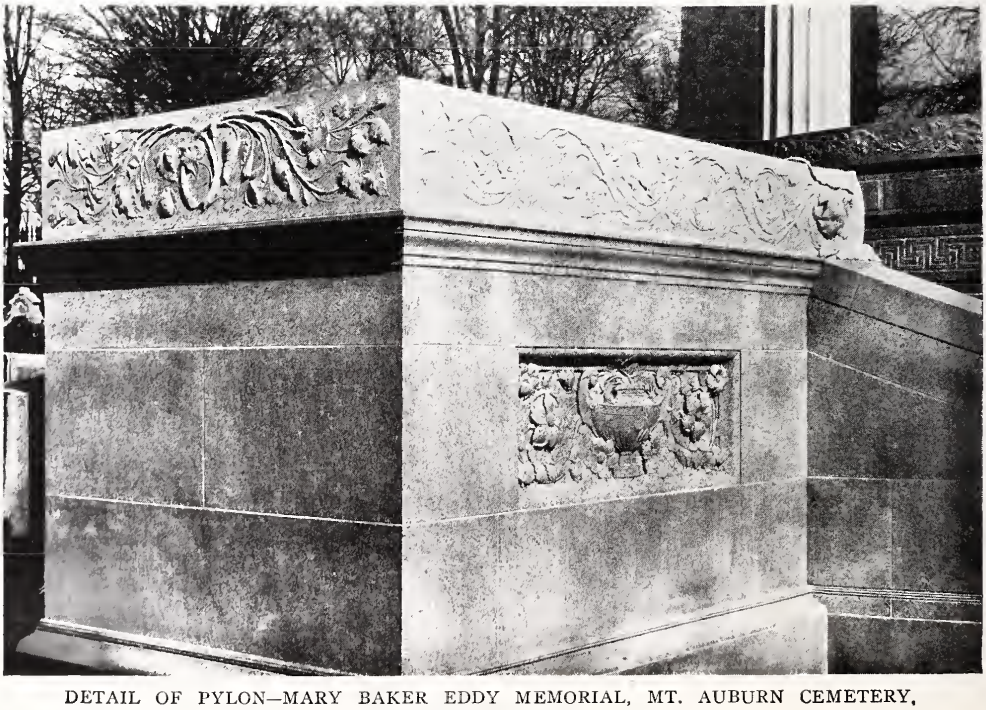
ST. BRIGID'S R. C. CHURCH, WESTBURY, L. I.
F. BURRALL HOFFMAN, JR., ARCHITECT.



ST. BRIGID'S R. C. CHURCH, WESTBURY, L. I.
F. BURRALL HOFFMAN, JR., ARCHITECT.



DETAIL OF ENTABLATURE—MARY BAKER EDDY MEMORIAL, MT. AUBURN CEMETERY, CAMBRIDGE, MASS.
Egerton Swartwout, Architect.



DETAIL OF PYLON—MARY BAKER EDDY MEMORIAL, MT. AUBURN CEMETERY, CAMBRIDGE, MASS.
Egerton Swartwout, Architect.



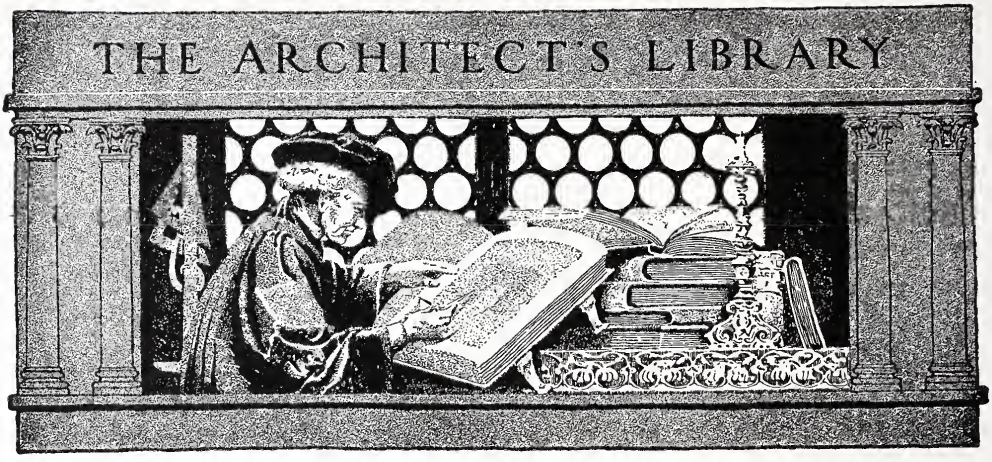
MARY BAKER EDDY MEMORIAL, MT. AUBURN CEMETERY, CAMBRIDGE, MASS. EGERTON SWARTWOUT, ARCHITECT.
For descriptive text, see page 450, May Architectural Record. It will be interesting to compare this photographic view with the very fine drawing reproduced there.



PIEDMONT DRIVING CLUB, ATLANTA, GA.
HENTZ, REID & ADLER, ARCHITECTS.



PIEDMONT DRIVING CLUB, ATLANTA, GA.
HENTZ, REID & ADLER, ARCHITECTS.



BOOKS ON COLONIAL ARCHITECTURE

By RICHARD F. BACH

Curator, School of Architecture, Columbia University

IT behooves us to interrupt our series of studies of the literature of Colonial architecture in order to consider two works of decided importance and unquestionable quality which have recently come from the press. Both are de luxe volumes and both intimately concern the best traditions of our early time. The first is a volume by Professor Fiske Kimball of the University of Michigan, a writer already known to us for a number of contributions to the literature of architectural history in the United States and notably to that part of this field which may be called American classic. This author's present book, a carefully prepared folio work, is entitled, *Thomas Jefferson, Architect. Original Designs in the Collection of Thomas Jefferson Coolidge, Junior, with an essay and notes by Fiske Kimball.* (Folio: pp. vii + 205; index pp. xi; 233 dwgs., reproduced in heliogravure. Boston; printed for private distribution at the Riverside Press, Cambridge; 1916. A few copies may be had from the Houghton, Mifflin Company at $25.)

The volume begins with a short article under the title *The Jefferson Papers,* by Worthington Chauncey Ford, which recounts the vicissitudes of the epistolary and the other documentary evidence concerning the life of the pioneer gentleman-architect of early republican America, and records also the various forms and editions in which these papers have been given to the public.

This account is followed by an interesting discussion by the author, indicating the scope and importance of Jefferson as an architect, from which we quote: "Instead of a few drawings, hitherto in dispute, we have now a great mass of studies, designs, and memoranda, unquestionably his, in which the extent of his activity and the development of his architectural knowledge, draughtsmanship, and creative power are clearly shown. Only the preoccupation of his contemporaries with his political achievements, and their inability to appreciate artistic efforts so far in advance of the time in America, can explain the long neglect of this aspect of his genius. The interest of the collection is not confined, however, to the light it throws on Jefferson's personality and his personal services to architecture. Though he rebelled

against the prevailing style of the time, he was also inevitably its unconscious representative. His drawings offer the fullest evidence we have concerning the design of buildings in Colonial times and in the early years of our national life. Until now the first considerable documentary source for our knowledge of early American architecture has been the group of drawings for the construction of the Capitol and the President's house in Washington, beginning in 1792. Of the drawings made prior to this date, doubtless never very many, those published are few in number. Jefferson's drawings begin about 1769. They are of a number and elaborateness unexampled in America until long afterward; they have been preserved with a religious care, due in his lifetime to his own methodical habits, and after his death to the interest of every scrap of paper connected with a man of such political importance. Nowhere else can the mental processes of an early American architect and the inner development of his designs be followed so closely. Scarcely less interesting a part of the collection is the group of drawings by other architects which came into Jefferson's hands and were preserved with his own drawings. Though few in number, they include work by Hoban, Hadfield, Thornton, Latrobe, and Mills, and are important, not only for the relationship with Jefferson which they testify, but also for their extraordinary independent documentary value. In the pervasive classical revival common to Europe and America, of which Jefferson's work forms a part, it will be found that his position was not always derivative and secondary in comparison to European standards, but that in certain respects he anticipated corresponding buildings in older countries, and in some other regards gave to American architecture an original direction. Beyond this national or international interest, moreover, the drawings may have a significance for the comparative studies of previous periods, as modern and more determinate instances of often repeated processes, the infiltration of classical influence in a vernacular art, and the supplanting of naive craftsmanship by amateur enthusiasm and professional specialization."

There is given also a history of opinion in regard to Jefferson's architectural pursuits which sheds no little light upon the skepticism the modern professional so readily adopts when considering a bygone day in which architectural practice was rudimentary as compared with the complexities of a present day office.

The difficulties encountered by the author in establishing Jefferson's ability, as dependent upon the drawings in the Coolidge collection, were of a surpassing magnitude, for of the nearly three hundred drawings "very few bear formal titles. Except for two drawings by Mills and one by Lenthall, none of them are signed; perhaps half a dozen bear dates. Subject, authorship, and sequence must be established by comparison with existing buildings, with early descriptions and representations of them, with letters, books of calculations, etc., by confrontation with drawings of established authenticity by other architects, and by the minutest examination of the drawings themselves, extending to the study of their media and paper." This has been undertaken in the notes which accompany the reproductions further on in the book, its results only being utilized in the preliminary essay, which attempts to determine the general questions of Jefferson's development, influence, and position in the history of architecture.

A detailed study of the life and architectural undertakings of Thomas Jefferson is next given, within the compass of about seventy pages; this subject is subdivided chronologically, according to the important chapters of the statesman-architect's career, into the period of earliest influence, the years 1769-1784, the European years 1784-1789, and the period 1789-1826. The last is further subdivided, because of its importance, into the years when Jefferson was Secretary of State, 1790-93; those of his retirement and vice-presidency, 1794-1801, those of his Presidency, 1801-1809, and the time from 1809-1826. Throughout the whole of the biographical discussion current or parallel reference is made to the heliogravure reproductions of the

drawings which are gathered together at the back of the book. The disposition of these drawings as an index of an architect's growth has been completed, in our humble estimation, with an enviable degree of understanding on the part of the author and with a sympathy which indicates the appreciative mind and eye of the historian. Drawings are everywhere made to vouch for text statements and the case for Jefferson is thus built up with a solidity of fact that is bound to establish beyond doubt or cavil the position of one of our first real architects.

We read with increasing interest of the life-long allegiance to Palladio, for the "proud student, grappling alone at twenty-six with the problem of building a worthy dwelling, scarcely accepted the current traditions for a moment, but passed at once to foreign concepts derived primarily from reading." A similar audacity and studied attack is witnessed throughout Jefferson's career and is amply verified in the present volume. Constant reading, a clear-headed grasp of essentials, a logical mode of approach in solving his problems, however unaccustomed, these qualities combined with an indefatigable desire for the best and most complete attainment of a highly desirable end are the most noticeable reasons for his ability as an architect, as well as for his success as a President.

As the cumulative evidence of this broadening of mind, as shown in drawing after drawing, passes in review we are fascinated with the intricacies of the problem and the mosaic effectiveness of each bit of drafting and other handiwork in the composition of a career; above all, we are impressed again and again with the author's excellent handling.

In the course of the study each of Jefferson's known designs is analyzed in detail, origins indicated for the various features of plan and elevation adopted, and corrections made in the attribution of certain designs long associated with the names of persons other than Jefferson. It is little short of remarkable to note the number of corrections of existing records of a past time that may be justifiably made on the basis of an accurate study of the life of one prominent man of such time.

We are impressed also with Jefferson's earnestness of purpose in attempting "to endow the new Republic with a worthy governmental architecture." We know that he was responsible for the design of the Virginia Statehouse, the first architectural expression of republican forms of government in this country; we learn also that he prepared the program and assisted in the judgment of drawings for the President's house in the new Federal Capital, and—unethically enough from the standpoint of modern practice—himself submitted, though anonymously, one or two designs he had prepared, using the inevitable Villa Rotunda scheme of Palladio, which appeared so often then and for some years afterward in various parts of the country. We are aware, also, of his continued interest, suggestion, and inspiration in the designs and execution of the National Capitol building.

Perhaps no better statement of the reader's conclusions as to Jefferson's status in the building art could be offered than that given by the author at the end of his biographical and parallel documentary study of the President's career: "The estimate of Jefferson as an architect cannot now be doubtful. Though not a professional, he was neverthless an architect in the true modern sense, making the preliminary studies, working drawings, and full size details, specifying the materials, and supervising the erection of a large number of buildings, usually without assistance from anyone. Even where he collaborated with others or asked their advice, as on the Virginia Capitol and the University, the chief honors of the design remain with him. His architectural draftsmanship, as early illustrated in the drawings for Monticello, was beyond comparison with the crude methods of other native designers of the same time, and remained unrivaled here until the advent of trained architects from abroad during the last decades of the eighteenth century. In constructive ingenuity he yielded to none, though lacking in sobering apprenticeship and prone to let artistic enthusiasm overrule practical judgment. Although like Bul-

finch and Thornton, men widely honored today as architects, he had no formal instruction in the art, and gained his knowledge from travel and books, he had advantages over them in both these respects, and had, besides, a contact with foreign professionals which they had never enjoyed. In draftsmanship Bulfinch never surpassed him; in extent of practice Thornton fell far behind. Both were equally with him amateurs in spirit, and he was equally with them a professional, in all but the acceptance of money for his services. In the development of his designs he brought to bear first a knowledge of architectural books then unique in America and later a fund of foreign observation shared by few. He used them with prophetic insight and with a literal accuracy hitherto unknown in this country, at the same time making his precedents his own as truly as an academic architect can. These precedents were drawn entirely from Europe. They represent, not English vernacular, but Roman classical architecture, as it was understood by Palladio and by the French of the late eighteenth century. Jefferson even outdid his masters in classical ardor, though lack of means prevented him from rivaling their effects. To America, where the English vernacular tendency of Wren had always been followed at the expense of strict Palladianism, the ideal of classicism was new. With Jefferson it was consciously expressed. He saw in the building of the Virginia Capitol at Richmond in 1785, a favorable opportunity for introducing into the State an example of architecture in the classic style of antiquity; and his houses were inspired by the same spirit of propaganda. It was he who initiated the method of the strict revivalists, who later covered the country with classic reproductions, their interiors converted to modern uses. Whether he followed Palladio's version of the antique or literally reproduced Roman buildings, he was, from first to last, in intent the most Roman of the Romanists. It is not to be expected that, however radical his intentions, Jefferson could wholly break away from the earlier Colonial manner which he condemned. Fortunately for him, perhaps, there was then, as always, no escape from the pervasive traditional style of the time. Sharing with other American buildings their materials, brick and wood, his works inherited unavoidably much of the homely domesticity and beautiful texture of their predecessors. It is this inevitable difference between Jefferson's intent and his results that permits the confusion of his work with the Colonial, and which at the same time makes it, like every attempted revival, a new creation. There is no mistaking it either for the work of the Palladians or that of the French Romanists; it is an individual blend with native elements, which makes it, too, our own. The attitude of Jefferson toward his art, contrasting with the attitudes of some other leaders of the classical movement like Schinkel, Robert Adam, or Chalgrin, is not difficult to define. Strong as was the artistic impulse which led him to expend so much money and energy on architecture in every position in which he was placed, the scientific impulse was still stronger. Relish for precision in all departments of life, coupled with historical passion, dominated his work. In his studies we see little of the free plasticity which marks the sketches of self-confident masters of technique. Instead we find a determined effort at formulation, a logical following through of consequences, and above all a critical historic spirit—all highly characteristic of certain phases of the age then just beginning. Jefferson's art was the art of retrospection and of science."

Then follows an essay on Jefferson's architectural influence, succeeded by a catalog of the architectural books which he owned. The former indicates among other effects, his personal influence on specific designs and individual architects, patrons and builders; likewise his effect upon the status of the profession and the conditions of practice, his encouragement of professionalism and his promotion of actual and formal classroom instruction in the fine arts; and finally his effect upon public architecture, the classic feeling, the encouragement of certain building types and the development of architectural style.

The catalog of his books shows Jeffer-

son's predominant characteristics again. The gathering of his library he made a serious business; his discernment in the selection of titles is notable, likewise his acquaintance with standard works, which was accompanied by an easily understood weakness for the most recent and quasi-popular publications.

The latter part of the volume, slightly more than half, is devoted to a separate study of the architectural drawings of Thomas Jefferson. This study is subdivided into an account of the media and materials used in the drawings, an inventory list of the documents and drawings in the Coolidge collection, and of known drawings among Jefferson's papers elsewhere deposited, and forty-nine sheets containing 233 heliogravure reproductions of the drawings, estimates, accounts and other memoranda that might contribute toward an exact knowledge of Jefferson's ability in this field. The study of papers used by Jefferson was carried to the last degree, giving us an insight into the difficulties that beset the path of the painstaking and accurate chronicler of past glories; while the catalog of drawings, preceding the actual reproductions, is really an analytical and comparative list—a *catalogue raisonnée,* so to speak—with constant cross references to other sheets, and embodying a number of further deductions and suggestions in regard to individual authorship or in regard to Jefferson's career in general.

It is gratifying to note the presence of a scale rule in all reproductions in which such an expedient is pertinent. Recognizing the difficulties of reproduction under the conditions at hand, it is fair to say that the clearness of the plates is noteworthy. An exhaustive index concludes the volume. The type is clear and the general handling of the book indicates a high standard in bookmaking.

We are glad to record the appearance of this volume for the reason that it offers a most salutary indication of the trend of American scholarship. It portends well, above all, for the future of architectural writing in this country. Its accuracy and detail, its scholarly completeness, its spirit of thorough investigation, its fine presswork, all combine to make it an edifying example for writers and publishers alike; and this all in addition to the great light it casts upon a fascinating subject which constitues the first real chapter of republican architecture in the United States.

II.

We have waited this many a day for the appearance of a volume recording the variegated history of the Jumel Mansion in New York. It has been to many a source of constant surprise that a building figuring so largely in our early history should have escaped the chroniclers for so long a time. Its story has at last been given us by William Henry Shelton in *The Jumel Mansion,* being a full history of the house on Harlem Heights built by Roger Morris before the Revolution, together with some account of its more notable occupants; with illustrations. (Small Quarto; pp. xii + 257, ill., Boston; Houghton, Mifflin Company; 1916. $10.) It is matter for comment that the Jefferson volume above reviewed and the present book by Mr. Shelton are both from the Riverside Press, published almost simultaneously, and both of excellent typography and general execution, both as to binding and reproductions.

Mention should also be made here of a brochure recently issued under the title, *Old Colonial Brick Houses of New England* (Small quarto; pp. 55, ill., Boston; Rogers and Manson Company; 1917. $1), the second number to be published in the Monograph Series on subjects pertaining to architecture and allied interests, a series "edited and published with the purpose of furthering a wider knowledge of the beautiful forms of domestic architecture developed during the time of the Colonies and the early days of the Republic." In the present example of this series the limited text portion is of no especial significance, but the twenty-four plates illustrating twelve fine brick residences are of decided value. An exterior photograph is first given of each house and this is followed immediately by a measured elevation. The photographs are good and the measured drawings are drawn to a uniform scale, the

whole presenting an excellent though brief study of mass and silhouette and window spacing in early brick buildings of New England.

III.

We regret that through an oversight our notice in the February number of the Architectural Record, in regard to the literature of the minor arts in Colonial times, failed to include mention of two excellent catalogs of exhibitions held respectively in 1909 and 1911 in the Metropolitan Museum, New York. The first of these bears the title: *The Hudson Fulton Celebration, Catalogue of an Exhibition held in the Metropolitan Museum of Art, New York, September to November,* 1909. (Quarto; 2 vols., pp. xliii + 162, ill., and pp. xvi + 160, ill., New York, The Metropolitan Museum of Art; 1909. $10.) The first volume, edited by Wilhelm R. Valentiner, is a catalog of a loan collection of paintings by Dutch masters of the seventeenth century gathered for the Hudson Fulton celebration, and does not concern us here. Volume two, edited by Henry Watson Kent and Florence N. Levy, catalogs exhibitions of American paintings, furniture, silver, ceramics, glass, pewter and textiles. The excellent quality of these catalogs is immediately apparent; they are perfect examples of the poorly understood art of indexing exhibits in printed form, intelligible for the layman and instructive for the student. There are numerous remarkably clear plates; the typography and general makeup of the volumes are of a calibre representative of the dignity of the splendid institution that produced them. Introductory notices concerning individual arts represented, given at the beginning of each section of exhibits, do much to knit together and give body to the catalogs. The accuracy of detail observed throughout is manifest at first glance. Among authorities consulted in the preparation of the work, in addition to those of its well known editors, appear the names of R. T. Haines Halsey and Luke Vincent Lockwood for the early American furniture section, and those of Edwin Atlee Barber and Albert Hastings Pitkin for the sections on American pottery and glass.

Of similar quality and likewise an exemplar of excellent catalog making is the *Catalogue of an Exhibition of Silver used in New York, New Jersey and the South.* Metropolitan Museum of Art, New York, November sixth to December thirty-first, 1911, with a note on early New York Silversmiths by R. T. Haines Halsey. (Small octavo; pp. xxxvi + 97, ill., New York. The Metropolitan Museum of Art; 1911. $.25.) The illustrations in this volume are of a noteworthy excellence; in fact, their quality and character is such as to serve as models for emulation on the part of publishers of books on metal work, or on other minor arts. We refer especially to the delicate reproductions of modeling, to the clearness of inscriptions and engraved or chased designs, and above all, to the fact that only one or two, or at most three, objects are reproduced on the same plate, a type of restraint which publishers of works on the industrial arts—excepting, of course, books of prohibitive price—have yet to learn.

Note should also be made of an all too brief pamphlet issued in connection with the remodeling of the old Dyckman House in New York City. It will be recalled that this, the last Dutch farmhouse remaining in Manhattan, was turned over to the city and given into the care of the Department of Parks; a restoration was immediately undertaken, and most interesting remains of the time when this building was still a whole day's journey from the city proper were unearthed. The whole of the building and its grounds have been given a semblance of their olden simplicity and characteristic architecture. The pamphlet above mentioned is entitled *The Dyckman House, built about* 1783, *restored and presented to the City of New York in MCMXVI* (Octavo brochure, pp. 47, ill. New York; privately printed; 1916) and its authors are Bashford Dean and Alexander McMillan Welch, the honorary curators of the restored building.

SMALL PUBLIC PARKS.

THE title of this attractive and profusely illustrated volume, *Parks, Their Design, Equipment and Use,** would lead one to suppose it contained a comprehensive presentation of the subject of parks, and especially of American park development, of which the large naturalistic parks for which this country is deservedly renowned are the most important; yet these receive but scant consideration, the main emphasis being placed upon small city parks, with special reference to Washington, D. C.

The text does not always adequately bear out the chapter heads. Under "Naturalistic Scenery" one looks for a detailed treatment of the landscape park and the purposes it serves, with an interpretation of the fundamental principles of naturalistic design; yet a paragraph on page 126 embodies the author's contribution to this subject. "The best general direction which may be given," he says, "in the 'shaping of naturalistic landscape to the enjoyment of man' is the rule-of-thumb one that the natural landscape be so adjusted and reshaped as to provide a multiplicity of scenes which will appeal to the landscape painter or photographer."

The book will have more value for park commissioners and superintendents than for the general reader. A number of the chapters contain sound advice, supplemented by well chosen illustrations, for the practical administration and maintenance of city parks.

Much has been written against sacrificing parks to buildings, and popular opinion is opposed to it. Still this menace reappears from time to time in some form, and in the chapter on "Architecture in Parks" the author outlines a sound theory on this subject: "Parks to possess architecture; architecture not to dispossess parks." Architecture, to be sure, may be "frozen music," but, as the author says, there are times when music is out of place, especially if it is bad music.

Many of the illustrations relate to foreign parks. These are all interesting, and many are adapted to practical application in the solution of American park problems. There are but few examples of naturalistic composition. The volume has a place on the reference shelf of a technical rather than a general library.

CARL F. PILAT.

*Parks, Their Design, Equipment and Use. By George Burnap, B. S., M. A., Landscape Architect of Public Buildings and Grounds, Washington, D. C., Lecturer in Landscape Design, University of Pennsylvania, etc. With an Introduction by Richard B. Watrous, Secretary American Civic Association. 7¼ x 10 inches, 328 pp., 168 ills., index. Philadelphia: J. B. Lippincott Co. $6.



The Development of British Building Construction. By C. F. Innocent. 73 ills., 294 pp., 6 by 9½. New York: G. P. Putnam's Sons, as the American representatives of the Cambridge University Press of England. $3.25.

Housing Problems in America. Proceedings of the National Conference on Housing, held in Providence, R. I., in 1916. 18 papers, 13 Discussions. 542 pp., 9 by 5½. New York: National Housing Association, 105 East 22nd street.

Model Drawing, Geometrical and Perspective, with Architectural Examples. By C. Octavius Wright and W. Arthur Rudd. 97 ills., 245 pp., 7 by 10. New York: G. P. Putnam's Sons, as the American representatives of the Cambridge University Press of England. $1.50.

The Building Estimator's Reference Book. By Frank R. Walker. Second Edition. Many illustrations, 3,418 pp., 6½ by 4¼. Chicago: Frank R. Walker, 168 North Michigan Avenue. $5.



Nineteenth Century Styles in House Building: a Local Study.

The western part of New York State remained a wilderness until after the beginning of the last century, for the Senecas, after Sullivan's raid, withdrew west of the Genesee River, and, besides, the few squatters who braved the fear of the Indians were scourged by fevers, so that the region gained the reputation of being unhealthy.

But in the early years of the nineteenth century, settlers began to cross the river and follow the one or the other of the two ancient trails which traversed the region and led to Upper Canada. One of these, the "Appian Way of the Iroquois," left the Genesee River at Avon; the second took its course from the present site of Rochester to Lewiston. This latter, running parallel with the shore of Lake Ontario, six to nine miles inland, is a continuous ridge of sand, with the ground falling away northward, and is supposed to have once been a sand bar covered by the waters of the lake. Being a natural highway, this Ridge Road, as it still is called, soon acquired great importance. During the War of 1812 bodies of troops and munitions of war were sent over it to the Niagara frontier; and after the war, in 1815, the tide of immigration increased rapidly. The first settlers were farmers, but during the palmy days of the stage route, when the four-horse coach carried the mails, public houses sprang up every few miles apart, and, it must be admitted, distilleries too. The latter are gone long ago, but many of the wayside taverns still stand, being used as farmhouses.

There is something very primitive about the way in which the settlements on these old post roads cling to the highway and straggle along. It is difficult to tell where one ends and another begins. There are few crossroads, apparently.

To the "Alluvial Way," as the Ridge was called by early travelers, prosperity came swiftly; and permanent homes were built, some of them of fieldstone, cobblestone and even brick. There were builders and artisans who were genuine artists in the settlements on the Ridge. Anyone who doubts this should visit Gaines or Clarkson, which was once called Murray Corners.

The old brick houses on the Lake Road in Murray Corners, six or seven of them in a row, show a wide variety of architectural treatment; yet they all belong to the period. Murray expected to be a place of importance, and built accordingly. Its old tavern, with the well in front of it, and the old "meeting house" are still there.

But these flourishing conditions along the Ridge came to an abrupt end, as the early records tell us, in 1825. The Erie Canal, "the grandest work on the continent up to that time," was completed in that year and put in successful operation. The canal runs parallel with the Ridge, about one to five miles to the south, and it immediately drew away from it and from the Buffalo Road all the travel and traffic which had made those old turnpikes famous.

Villages sprang up along the course of the canal, and each became a "shipping point of great importance." Land speculation and the new manufacturing activities that the use of steam made possible, helped to swell their prosperity. A new order of things had begun.

The first dwellings in these canal ports were built in the local version of the Colonial style and those that have escaped "modernizing" are still a joy to the eye. They are not large—few of them are "mansions"—but they have "quality."

As there was nothing in this region before the last century, it will be seen that it is a good locality for the study of late Colonial and of Greek revival, often with a strain of Dutch influence combining curiously with the Colonial or the Greek.

The wide classic cornice is on nearly all the oldest buildings; but old residents can

remember settles flanking doorways; and the four-chimney effect, that modified form of step gable, was used.

Among the New England Yankees who developed the region was a sprinkling of New Netherlanders from the Mohawk Valley.

In the late thirties changing conditions must have been responsible for the disappearance of the builder who designed and personally executed his work. The architects, whose careers are sketched in our county history, spring into publicity about this time.

After having discovered that architecture combined with local history makes a fascinating study, I also discovered that there were entirely distinct types which I had lumped together as Victorian. Among them was one which looked so much like late Colonial in its low-pitched roof and general outline, that I decided it must be a transitional style, and called it "early Victorian." It was not until after making inquiries of every old resident I found that a definite clue was obtained.

No, they couldn't any of them remember when the "Butler house" or the "Cutler house" wasn't there, or when there was no "Johnson house."

I was discussing the curious windows of the "Johnson house" with two old ladies who had lived opposite it all their lives, when one of them startled me by saying:

"It was all made over when Mr. Johnson bought it."

"When was that?" I exclaimed.

"Oh, late in the sixties. It used to be a small, plain house, but Mr. Johnson put on the wing and raised the roof to have a billiard room in the third story."

So I was at sea again. But I soon saw there was only one other way to interpret the facts. The houses in question were solidly built. The Victorian part of them, most of it, could have been just nailed on, and that was probably what had happened.

"Carpenter's Gothic," the first recognized style that comes after Colonial, is said to have been introduced by Ruskin, but as he was barely twenty when the notorious Victorian age began, his enthusiasm for Gothic might have been only a part of a general awakening on the part of the English to the marvelous beauty of their cathedrals.

Either that style was never popular in this locality, or "the new Gothic cottages," which the county history refers to as the work of a local architect, have been nearly all demolished or effectively disguised. There is one Victorian Gothic house in Albion so different from its neighbors that it is really interesting, and there are others stamped on my memory which I know I have seen somewhere. They were built of frame, but not clapboarded; the timber was applied vertically, with strips of moulding to cover the seams.

So they were neither very permanent nor warm in winter, and, once out of date, they must have looked "outlandish" even to Victorians. The one worthy example of our Gothic revival period that I have seen is on beautiful South Main street, Geneva. It was built for an Englishman who probably designed it himself. It is Tudor Gothic; the material, brick.

In the year 1840, tracks now belonging to the New York Central were completed between Rochester and Buffalo, but the route took a southerly direction through Batavia. So the artificial waterway now lost to the railroad just as the earlier stage routes had lost to the canal—and perhaps this is a better reason than those I have just given why examples of the style then prevailing are few and far between here.

In the year 1852 another line of railroad took the course of the canal, so some of its former trade activity returned to this locality.

It was in the middle or late fifties that "Italian villas" became popular. Wealthy Americans had begun to travel. Henry James described in his novels the impression they made on Europe and the impression Europe made on them. Some of these travelers, when they returned home to Syracuse or Buffalo, must have been honestly dissatisfied with the crudity around them; and then some clever architect, taking advantage of this new reverence for old world culture, designed for his clients "Italian villas;" and a little later on, some other clever architect, profiting by the example, introduced the Mansard roof as a reminder of Paris.

I have seen American "Italian villas" that were not at all bad. When built with a square tower rising from the front of the flat spreading roofs, and having window balconies with iron railings, they were certainly rather impressive; but it was easier to build a cupola than a tower, and a piazza wide enough for rocking chairs was certainly more practical than the useless narrow balconies. The general effect of these cupola houses is one of sturdy, four-square simplicity. It was probably their alluring name that made them so popular with Victorians.

In "Suburban Sketches," which pictures

life in the sixties, W. D. Howells expresses his admiration of "the new French-roof houses with their dormer windows."

The "villas" and French-roof houses were usually built of brick. It must have been at this period, when so many things needed concealment, that the habit of staining brick was introduced. When the "vulgar looking" lines of mortar were obliterated, the courses of brick were all picked out again in white in a very fine and neat manner. That is a lost art, let us hope; but country builders are still guilty of using the reddening mixture to make the front of a store "look like new" or give a "finished look" to a chimney.

It was in the sixties and seventies, according to abundant testimony, that a great many drastic architectural changes were made in these towns. Business blocks were given false fronts, and there was a perfect orgy of remodeling of Colonial dwellings in Rochester and points west.

The spirit of the time was entirely against blunt freedom and naturalness of expression, so it is not surprising that the early mode of building had fallen into disrepute. Yet people must have hated it, despised it, to have done as they did. They tore out carved mantlepieces and paneled doorways, and as often as not the old-fashioned roof, with its rising sun at the gable-end, had to go too. Everything homely and Dutch was pounced upon with especial severity; but think of going to such discomfort and expense for the object of being genteel!

Double front doors of black walnut and long French windows completed the disguise of the made-over house, so that it takes some knowledge of what to look for to determine whether a Victorian residence is true or sham Victorian. Of course, hypocrisy is its crowning offense to all who care for the Colonial.

And these imported styles—caricatures that they often were—spread all over the country. My lodging house in a town on the Pacific coast was capped by a cupola. Sara Jeanette Duncan describes the "architectural expression" of a Canadian town as "culminating expensively in Mansard roofs, cupolas . . ."

The building and remodeling of brick houses seems to have come to a temporary end by the year 1880, for frame and not brick was the medium of expression for the new Queen Anne revival.

I have never studied the original examples of this style, but it seems to have possibilities, and its note of vivacity must have come as a pleasing contrast to the blunt-topped style that preceded it. For no amount of jig-saw work plastered on a Mansard roof residence ever destroyed its effect of solidity, and it might also be said that no jumble of steep gables, bay windows and turrets can produce a picturesque effect where there is no knowledge of the underlying principles of composition.

The ornamentation on these Queen Anne houses is sometimes pure Greek. This seems odd enough until one considers that the real Queen Anne was a phase of the Renaissance.

In the towns on the Falls Road, the canal towns, there are not many striking examples of this style; nothing very bad nor very good which, according to my theory, is an indication that there was soon a decline in that tide of prosperity which swept over us after the Civil War.

In the eighties, here as elsewhere, the packing-box type multiplied itself, and there are a great many trimmed packing-boxes that aspired in their day, I suppose, to being Queen Anne.

The inexpensive house a century ago was well built no matter how humble, and it even looked attractive because it was low and had individuality. But is there anything more depressing than the modern sight of a double row of pert upstanding laborers' homes, with such monotonous variations that they might as well be all alike and done with it!

Queen Victoria died in 1901, but the habits of mind and modes of expression which we call Victorian, lost vigor in the eighties and came to their end about ten years before this present century began.

In the nineties, with a complete change in the spirit of the time, the Colonial style became popular again, but our modern use of it should, I suppose, be called an evolution rather than a revival. "Art is the expression of its age."

H. M. Hastings.

The Architectural Exhibition at Chicago.

The thirtieth annual Chicago Architectural Exhibition opened at the Art Institute on the 5th of April under the same auspices as in the past two years, that is to say, the Chicago Architectural Club, the Illinois Society of Architects and the Illinois Chapter of the American Institute of Architects, with the cooperation of the Art Institute of Chicago. By

courtesy of the other organizations the Architectural Club is mentioned first in all the announcements, because it instituted these exhibitions and maintained them for many years. Later the chapter took part in them, but this combination did not work well. Finally, a joint committee of the three organizations took up the matter with the Art Institute and a working agreement was made by which the exhibition became a regular Institute feature, managed by a joint committee of fifteen. The exhibition this year was held in the upper galleries of the new extension, completed last year over the tracks of the Illinois Central Railroad on the east side of the main building.

Dissatisfaction was expressed last year by architects and others at the way in which the exhibits had been selected and installed, letters on the subject appearing in the "Monthly Bulletin" of the Illinois Society of Architects, the largest of the architectural societies in the State. Very many worthy exhibits had been rejected and a great part of the wall room had been taken up by immense drawings sent in by architectural schools, some of which were placed so high that they might as well have been left out altogether. The exhibits had been crowded too close together. Not a few wholly unimportant ones had been hung, and the selection had apparently been made for pictorial character mainly. In the 1917 exhibition the defects of last year were largely avoided, although one is inclined to call this also a pictorial exhibition. However, the exhibits were well spaced on the quiet-toned, buckram background of the generous walls in the new galleries.

The contribution of works representing "allied arts" was very small. However, artistic examples of hand-wrought iron were relatively numerous, and one noted also a fairly large exhibit of stained glass, which unfortunately could not be examined because it could not be properly seen either by natural or by artificial light.

The only attempt at decoration was in room 50, which is the entrance to the new galleries, a sort of atrium, in which have recently been placed a number of the most important of the museum's examples of sculpture. This was laid out as a garden after a clever design by Root and Hollister, landscape architects.

The exhibition comprised 477 exhibits from 193 exhibitors. Of the latter eighty-nine were Chicago architects, draftsmen and architectural colorists. It is safe to say that all the various schools of architectural design and practice were competently represented. The Progressive school of the Middle West did not make so interesting a showing as formerly, but its influence was seen in the freedom with which the work of other schools is being handled by their expositors. Another noteworthy fact brought out by the exhibition is the growth of good Gothic architecture in America. Many excellent designs were shown in which scrupulous care had been given to details and to the use of appropriate materials.

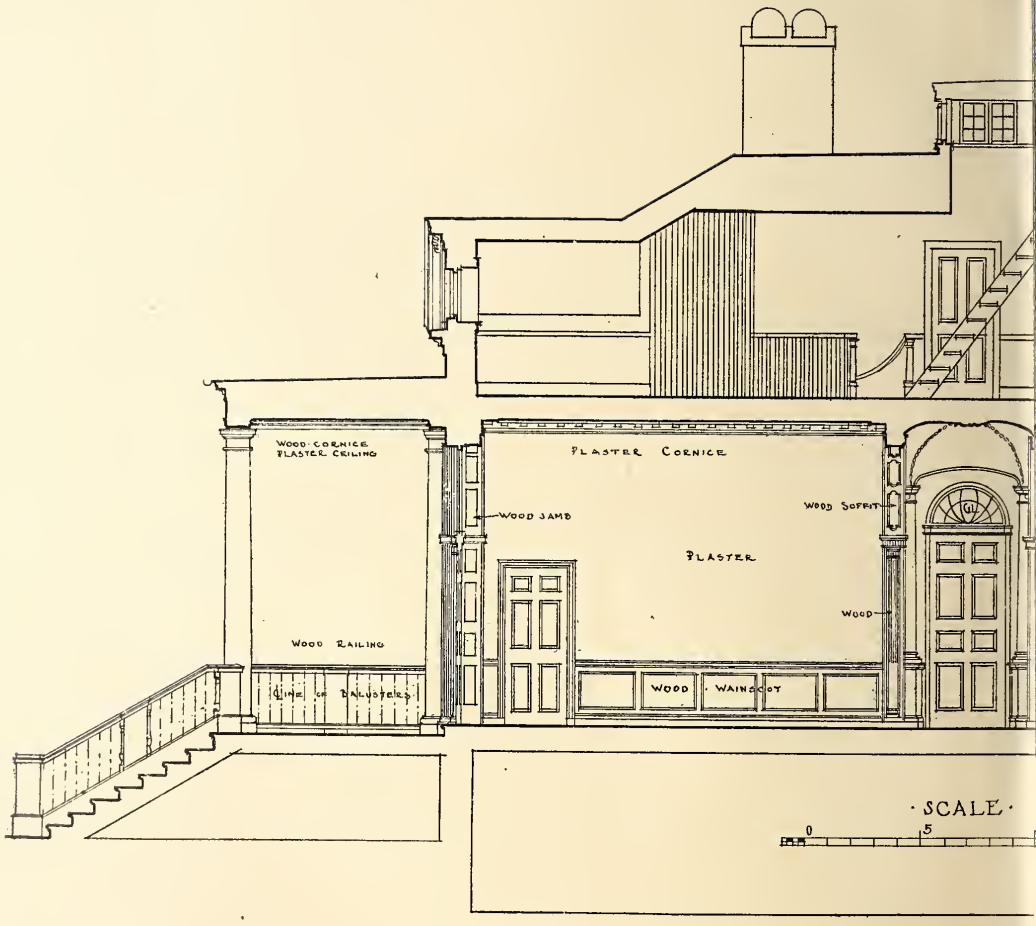
Mention should be made of the very fine exhibition catalogue containing an exceptionally interesting foreword by George William Eggers. It is handsomely printed in quarto form and is five-sixteenths of an inch thick (it has no page numbers), and four-fifths of it are devoted to half-tone illustrations, all printed in sepia. Many of them even surpass the exhibits themselves, blending the often discordant tones of the color drawings and translating the various textures into a soft monotone that has no inharmonious notes. P. B. W.

A Correspondence Course on the Modern Uses of Wood.

A departure in extension work that should be of particular interest to architects has been taken by Syracuse University, Syracuse, N. Y., which has inaugurated a correspondence course on Lumber and Its Uses. The course is in charge of H. H. Tryon, professor of forest utilization in the New York State College of Forestry, Syracuse University. A letter from Prof. Tryon reads in part:

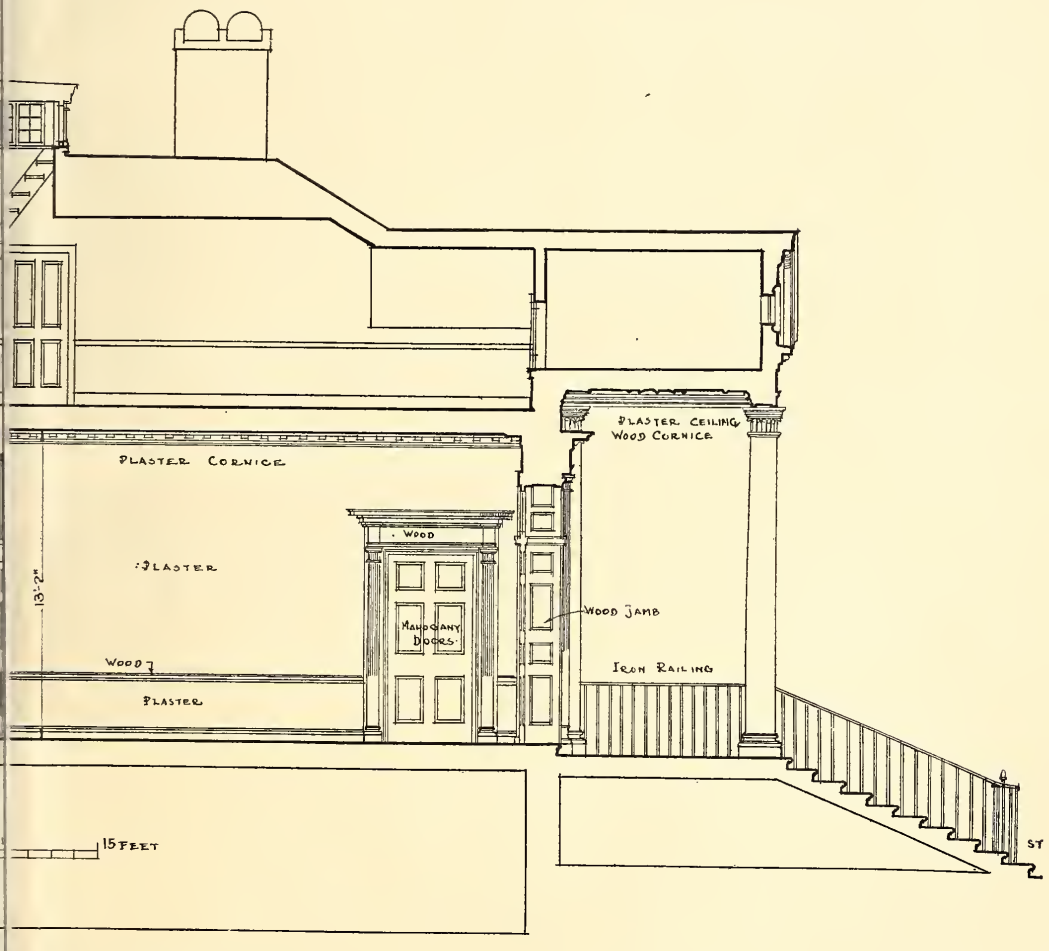
"The great demand for wood of all kinds, the innumerable uses to which it may be put, the growing scarcity of certain species, which is helping greatly to force an increasing development in the way of new uses for hitherto rather obscure and comparatively little known woods, together with the growing use of substitutes, all combine to make it necessary that there should be widespread, accurate knowledge of the technology of wood together with its proper uses. Structure, physical properties, susceptibility to decay, adaptability to painting or staining, and many other specific phases, are covered in extensive fashion in this course."

The fees are very moderate and provision is made for lending valuable books and documents for study.



TRANSVERSE SECTION AT C

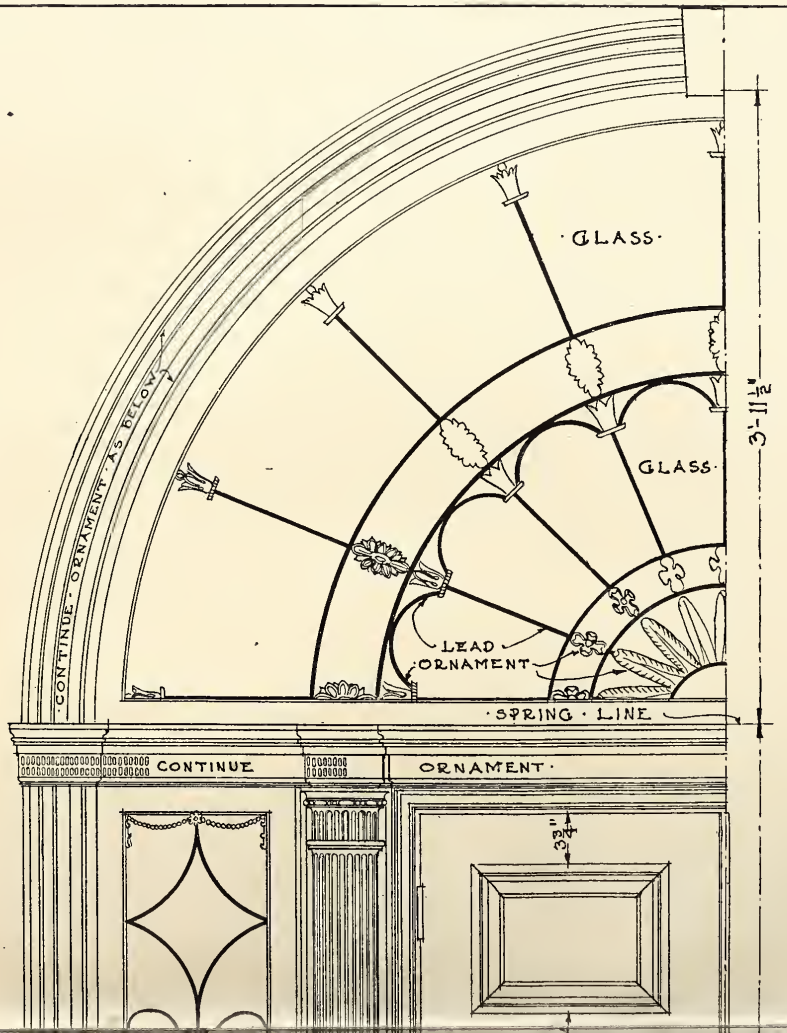
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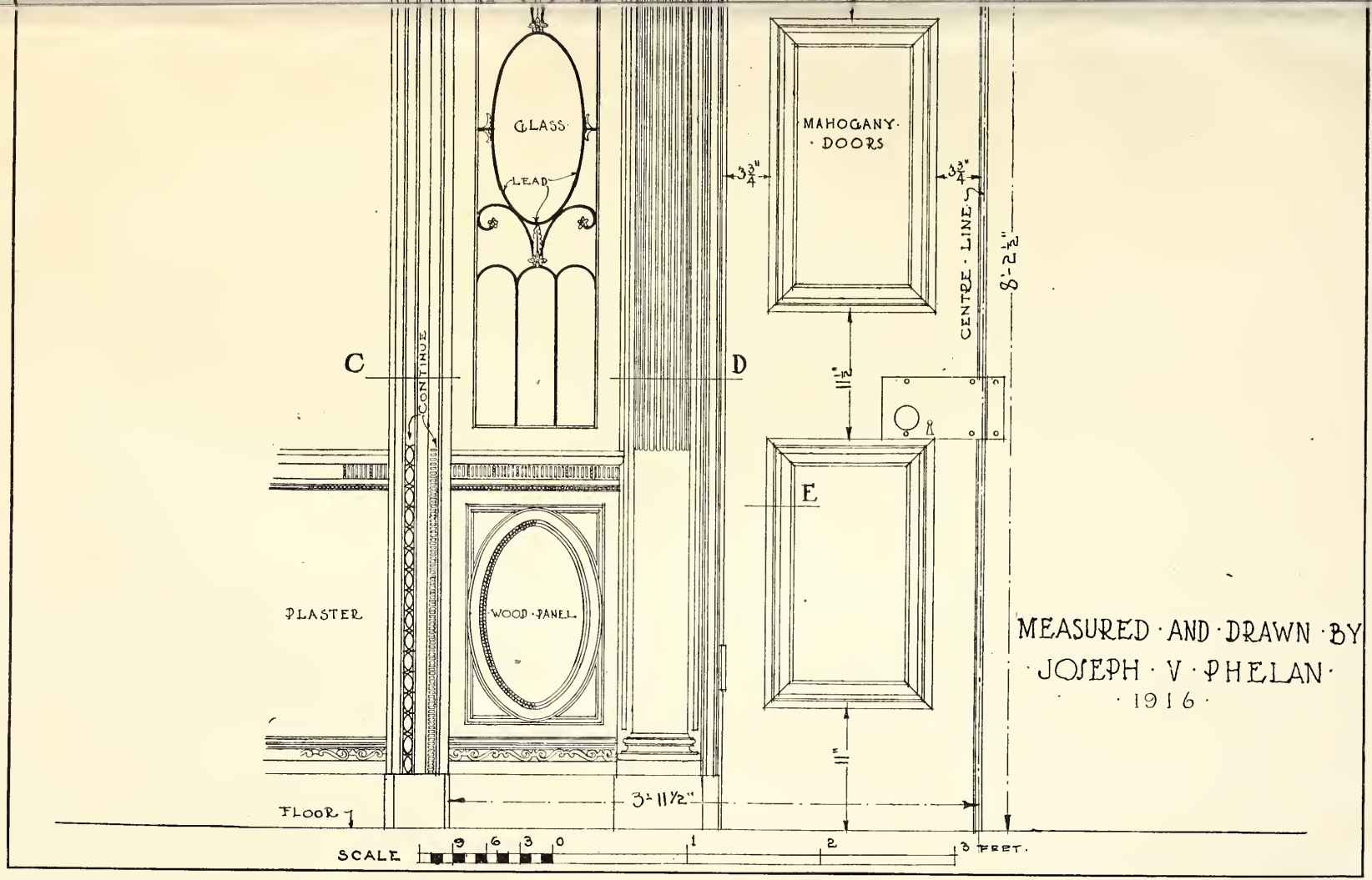


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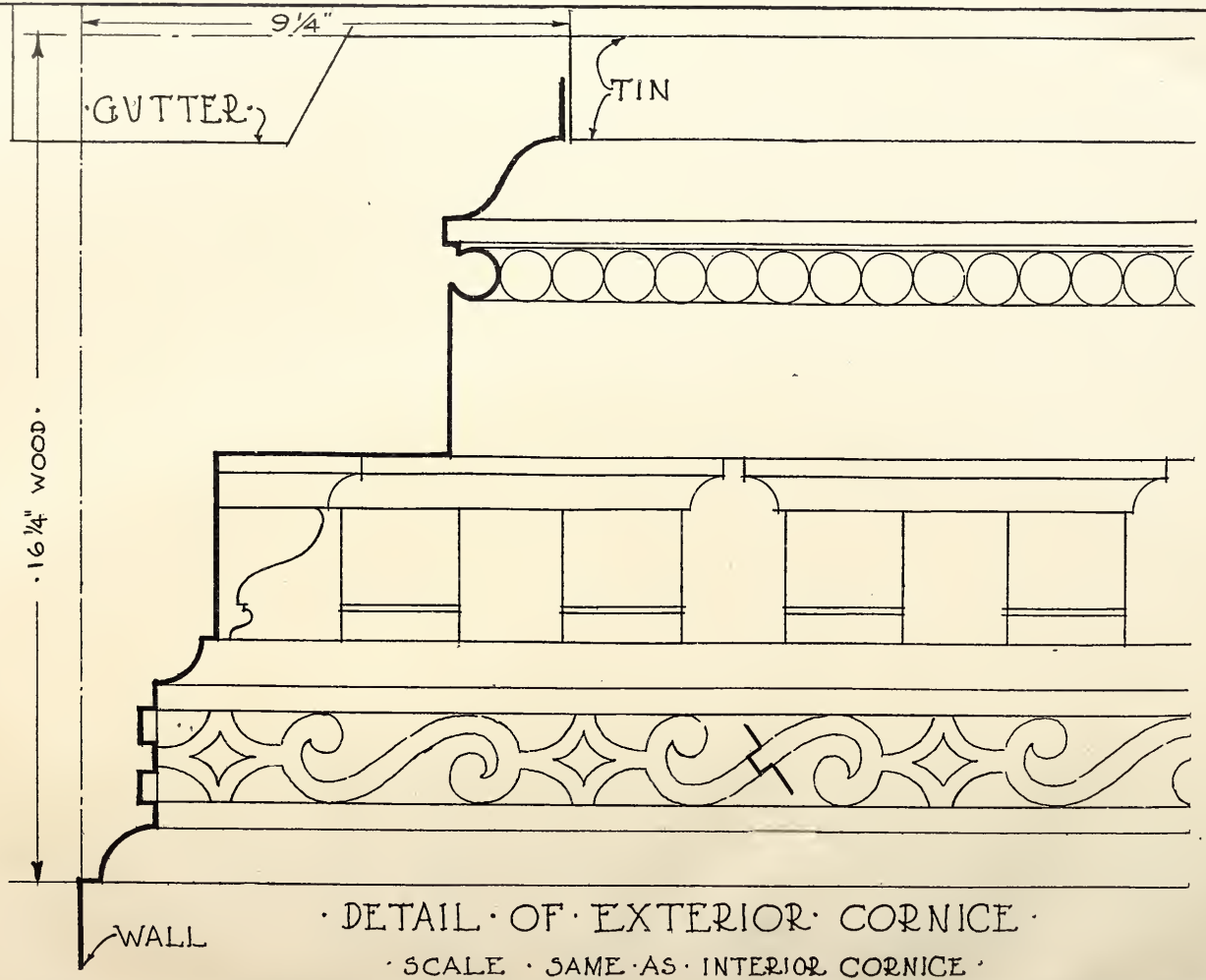
DRAWN BY JOSEPH V. PHELAN.

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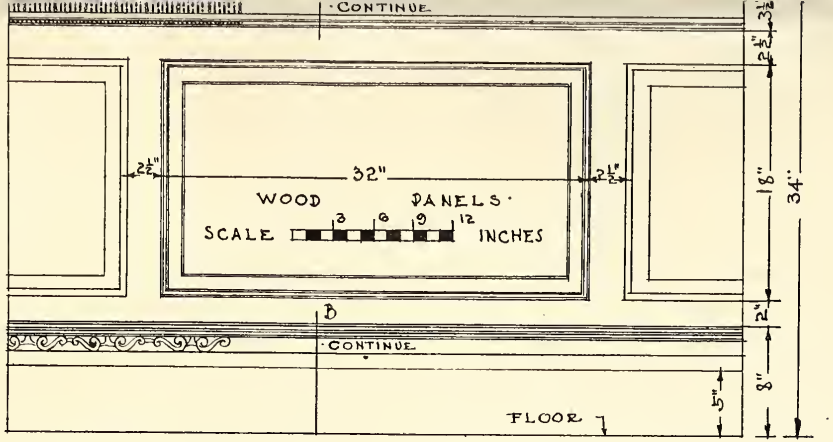
DETAILS OF DECORATION—HOMEWOOD, BALTIMORE, MD.



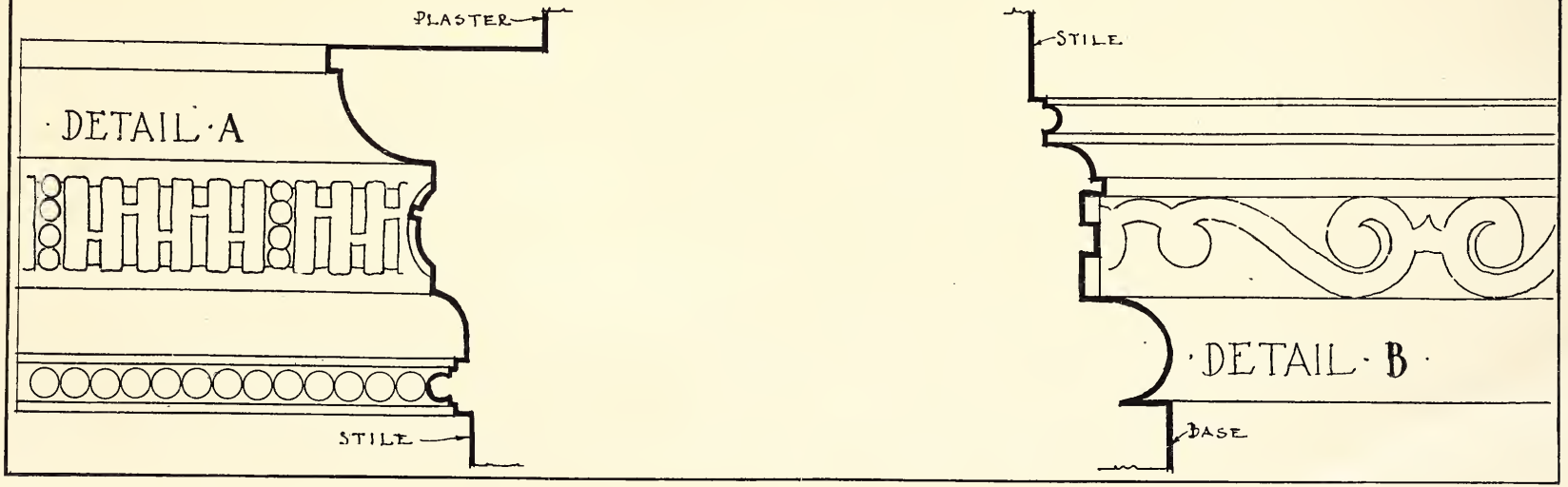
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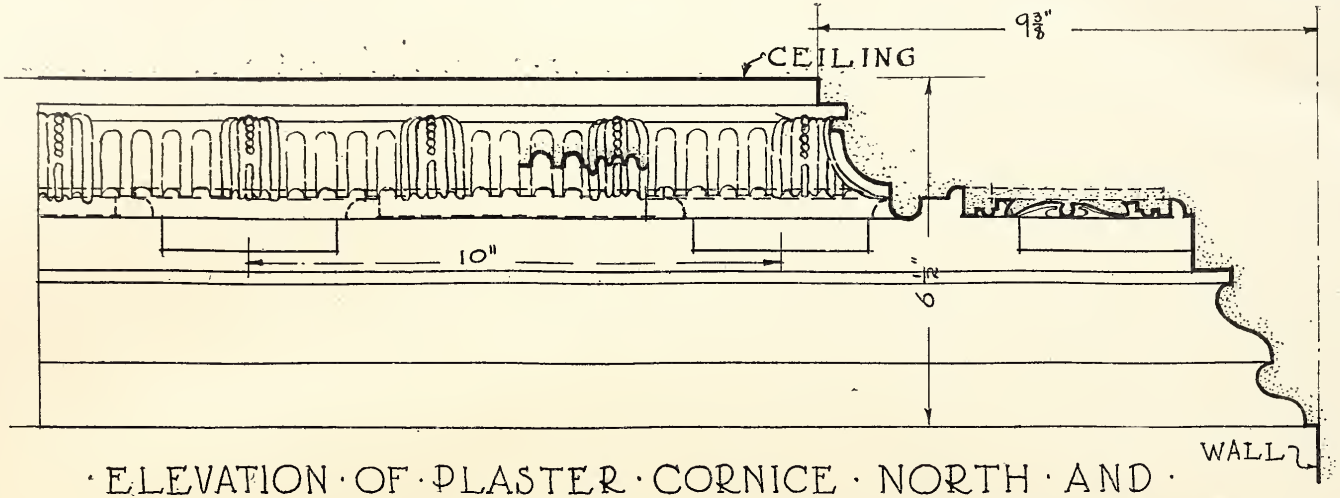
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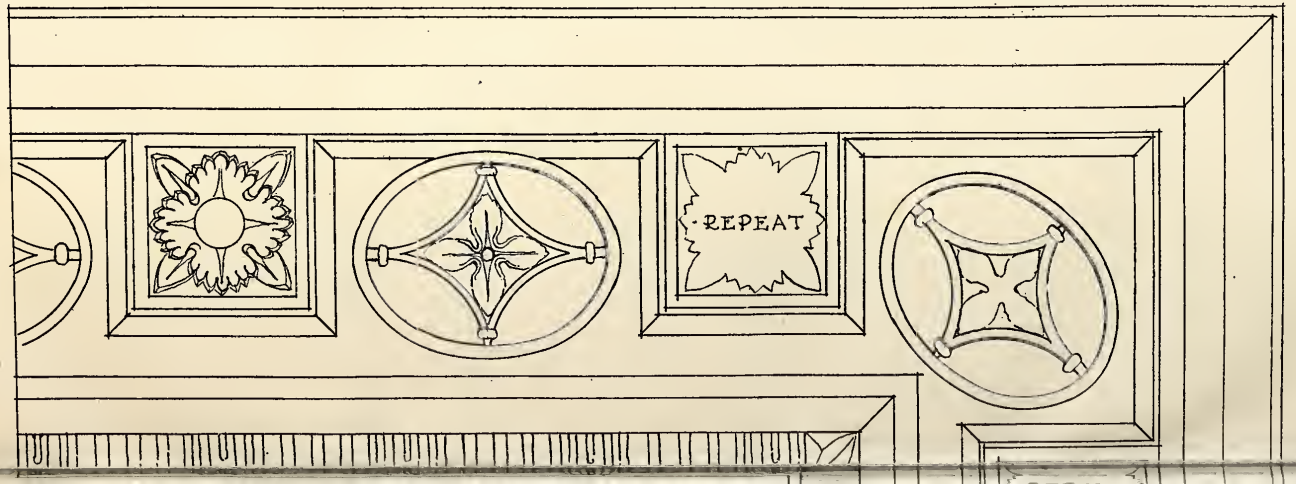
DETAILS OF DECORATION—HOMEWOOD, BALTIMORE, MD. MEASURED AND DRAWN BY JOSEPH V. PHELAN.

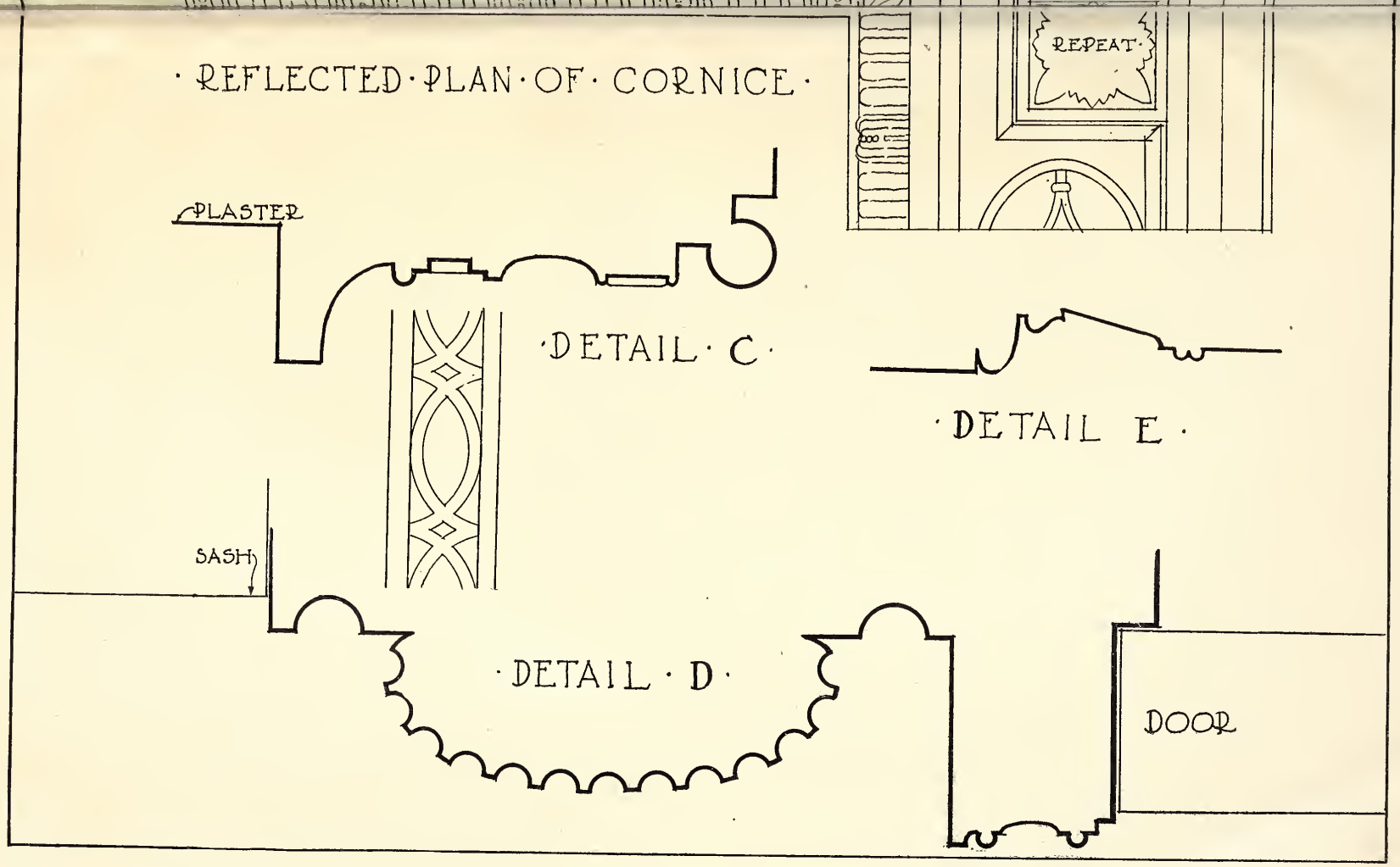


ELEVATION OF PLASTER CORNICE NORTH AND SOUTH HALLS

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SCALE FOR ALL DETAILS





DETAILS OF DECORATION—HOMEWOOD, BALTIMORE, MD. MEASURED AND DRAWN BY JOSEPH V. PHELAN.

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